TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

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April, 1954

Volume 19—Number 4

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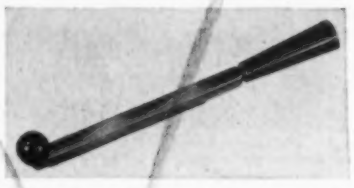
Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

CARBIDE HAND FILE
can be resharpened many times



Hard abrasive materials pose no problem for this lightweight carbide hand file. It can be resharpened many times. Each file is equipped with a handle and knob. Three models are available, each with a ¾ x 6-in. cutting area, for coarse, medium and fine cuts. Other cuts are available on request. Made by **Severance Tool Industries Inc.**, 761 Iowa St., Saginaw, Mich.

▲ For more details circle **NED-1 D4** on enclosed inquiry slip ▲

DRUM LIFTERS
can lift four drums in one lift

Drum lifters attached to a two-part chain sling as illustrated can be used to convey four drums in one lift. The Merrill-Volz lifters are quickly attached and detached and have a rated safe working load of 1000 lb each. Drums where the head is in place or removed can be handled in either vertical or horizontal position. Grip opening of 1¼ in. accommodates variety of drum types. Made by **Merrill Brothers**, 56-31 Arnold Ave., Maspeth, N. Y.

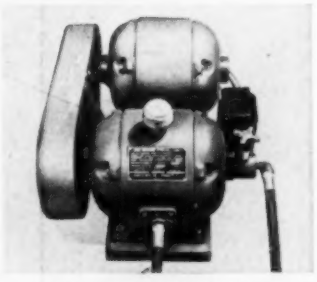
▲ For more details circle **NED-2 D4** on enclosed inquiry slip ▲

SOLDER POTS
for tinning printed circuits

Line of thermostatically controlled rectangular solder pots is designed specifically for tinning printed circuits or for dipping small chassis assemblies. Shallow cast iron crucibles have wide lips and inside dimensions from 6 x 12 in. to 12 x 12 in. Depths are from 1 to 4 in. Replaceable electric heating elements are clamped to the under surfaces of crucible castings and are insulated from the sheet metal casing. Units operate on standard voltages. Made by **Vulcan Electric Co.**, Dept. P, 86-90 Holten St., Danvers 7, Mass.

▲ For more details circle **NED-3 D4** on enclosed inquiry slip ▲

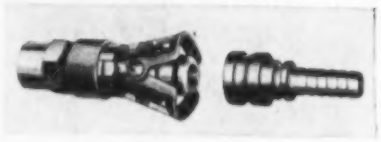
ELECTRIC HYDRAULIC PUMP
delivers 2.04 gpm at 8800 psi



Intermittent deliveries of 2.04 gpm at 8800 psi are possible with series H Hi-Thrust electric hydraulic pump. Higher outputs up to 4.5 gpm can be obtained to 6200 psi. Pump is six-piston wobble-plate type which operates in either direction. It has operating speeds from 900 to 2200 rpm, displacing 57 cu in. per revolution. Units are available with 2, 3, or 5-hp, 220/440-v, three-phase, 60-cycle motors. Made by **Manco Mfg. Co.**, Washington St., Bradley, Ill.

▲ For more details circle **NED-4 D4** on enclosed inquiry slip ▲

PNEUMATIC HOSE CONNECTOR
for use at up to 250 psi

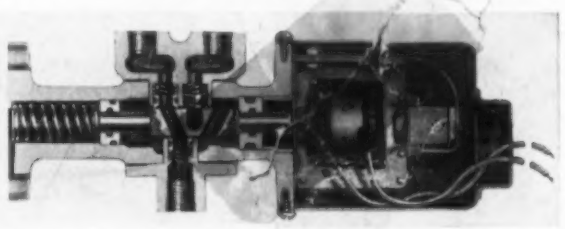


Connector for pneumatic lines, known as Quick-As-Wink valve coupling, is available in ¼ to ¾-in. sizes with hose or male or female pipe threads and can be used at up to 250 psi. When coupling is connected, design permits the two halves to swivel freely without leakage to prevent hose kinking. A brass sleeve with "on" and "off and exhaust" positions is used to lock the halves of the fitting together. In its various positions it gives either the free-swiveling locked connection or cuts off air from the compressor side of the coupling while permitting pressure at the other side of the coupling to exhaust through ports before uncoupling. Made by **C. B. Hunt & Son, Inc.**, 1860 E. Pershing Ave., Salem, O.

▲ For more details circle **NED-5 D4** on enclosed inquiry slip ▲

SOLENOID VALVES
for 0 to 250 psi oil service

Designed for 0 to 250 psi oil service, Shear-Seal Solenoid valves are available in ¼, ⅜ and ½-in. pipe sizes in three-way, four-way and shut-off models for



110, 220 and 440 v ac. Sealing members are lapped together and are in constant contact, so that pipe scale or other foreign matter does not interfere with operation or cause seal wear. Valves are also self-lapping and compensate for wear automatically. Made by **Barksdale Valves**, Dept. NED, 5125 Alcoa Ave., Los Angeles 58, Calif.

▲ For more details circle **NED-6 D4** on enclosed inquiry slip ▲

DUST COLLECTORS
with extra large dust drawers

Extra-large 7-cu ft capacity dust drawers are featured by 602A series of three dust collectors, which have cabinets 28 in. square by 66 in. high. Air capacities range from 300 to 1100 cfm, depending upon power plant. Largest model 84, powered by 3-hp motor, develops 1100 cfm with one 6-in. inlet, or 525 cfm from each of two 4-in. inlets. This unit is intended for heavy continuous service with several small grinders and polishers. Model 80 is powered by 1-hp motor and develops 300 cfm from each of two 4-in. inlets or 650 cfm from one 6-in. inlet. Model 81 with 1½-hp motor develops from 465 to 1000 cfm, depending upon size and number of inlets. Made by **Torit Mfg. Co.**, 2[illegible]8 Walnut St., St. Paul 2, Minn.

▲ For more details circle **NED-7 D4** on enclosed inquiry slip ▲

ILLUMINATED MAGNIFIERS
housing redesigned, made of plastic

Housings for Flash-O-Lens illuminated magnifiers, used to spotlight and magnify in all types of inspection work, are now molded from heat-resistant polystyrene and have been redesigned. New thumb-nail-notch grip facilitates loosening and tightening of ring that holds lens in housing. Made by **E. W. Pike & Co.**, 494 North Ave., Elizabeth 3, N. J.

▲ For more details circle **NED-8 D4** on enclosed inquiry slip ▲

QUILL-TYPE POWER UNIT
controls cutting tool spindles

Hydraulically operated style 22 quill-type power unit is designed for actuating a single tool or multiple spindle head in easily controlled automatic cycles. It has an 8-in. stroke and controls feeding, rotating and retraction of the cutting tools. Companion model 22-L is similar but has a 12-in. stroke. Both are self-contained and compact. Made by **Ex-Cell-O Corp.**, 1216 Oakman Blvd., Detroit 32, Mich.

▲ For more details circle **NED-9 D4** on enclosed inquiry slip ▲

TRANSLUCENT CONTACT PAPER
gives fast print back speeds

Extremely fast print-back speed when diazo or blueprint reproductions are being made is afforded by Kodagraph Contact Paper Translucent, an extra-translucent, extra-durable contact paper. Paper withstands considerable handling and use. Photographic lines on paper can be erased with ordinary pencil eraser after paper is moistened slightly. Paper employs Kodagraph Contact emulsion which produces clean, sharp lines and is designed for processing in same manner as all Kodagraph contact papers. It is available in all standard sizes. Made by **Eastman Kodak Co.**, Dept. E, 343 State St., Rochester 4, N. Y.

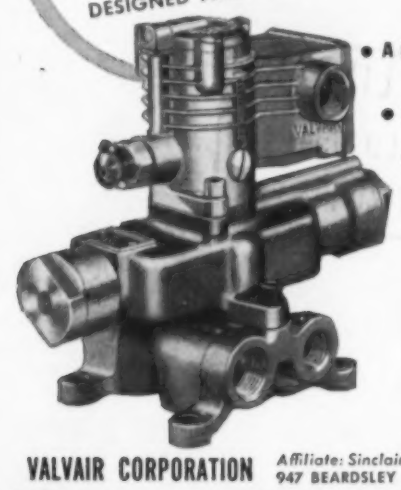
▲ For more details circle **NED-10 D4** on enclosed inquiry slip ▲

PORTABLE LIFT TABLE
with flat steel swivel top

Heavy jigs and dies weighing up to 2000 lb can be handled by the Weld-Built portable lift table with a flat steel swivel top. It is equipped with large ball bearing wheels and its table is raised hydraulically with a foot pump. Use can also be as a sheet or strip feeding table, portable elevator or as a temporary work bench. Lift is from 28 in. up to 42 in. Made by **West Bend Equipment Corp.**, 329 Water St., West Bend, Wis.

▲ For more details circle **NED-11 D4** on enclosed inquiry slip ▲

SPEED KING
SOLENOID PILOT OPERATED CONTROL VALVE
by VALVAIR
DESIGNED AND BUILT TO J. I. C. STANDARDS



- A Hefty Assist to Automation
- Fully Enclosed
- Integral Junction Box

Get 20,000,000-cycle life and more with Speed King, industry's most rugged and compact control valve. 2-way, 3-way, 4-way and 4-way-5-port (2-pressure) models for pneumatic, hydraulic and vacuum service; pipe sizes—¼" through 1".

VALVAIR CORPORATION Affiliate: Sinclair-Collins Valve Company 947 BEARDSLEY AVE., AKRON 11, OHIO

Rely Upon Valvair DIVERSATILITY

ASK FOR BULLETIN "N-4".

For more details circle NED-12 D4 on enclosed inquiry slip

Economy in Production

American industry is noted for its ingenuity and resourcefulness in producing vast quantities of goods at low cost, using the most modern techniques and materials available. This achievement has been attained by keeping in step with progress—using new machines, incorporating new or improved components, specifying new materials and freeing labor of much of its back-breaking work.

NEW EQUIPMENT DIGEST is an integral part of this progress. Month after month, year after year, we disclose to you the outstanding new and improved products, materials and processes which can be used to advantage.

In this issue there are well over a thousand products as well as reviews of the latest industrial literature—over a thousand short-cuts to economical production. You need only circle the correct numbers on the self-mailing inquiry slip to bring complete information to your desk.

A. N. Gregg
EDITOR

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The Conneaut Rubber And Plastics Company is equipped to handle your requirements for almost any cross section in extruded Polyethylene and Vinyls. Where needed, we formulate special compounds in our own laboratories to meet your special applications. Complete die-making facilities in our own plant enable us to obtain extremely close tolerances . . . meet specifications exactly. Send us your blue prints for our quotations . . . or your problem for analysis and recommendations.

SEND FOR FREE, ILLUSTRATED FOLDER

Contains complete details on Conneaut's custom service on plastics compounding and extruding. 102-D

THE CONNEAUT RUBBER AND PLASTICS COMPANY
CONNEAUT, OHIO

For more details circle NED-18 D4 on enclosed inquiry slip

Speed Up Plant Pickups and Deliveries . . .

SAVE COSTS with this HUSKY, BIG CAPACITY Globester "PICK-UP" only $355.00 FOB Richmond, Ill.

Light weight, low first cost, low operating cost big pay load capacity—the ideal unit for hundreds of plant uses. Precision built, rugged—will deliver day after day economical service.

MONEY SAVING FEATURES

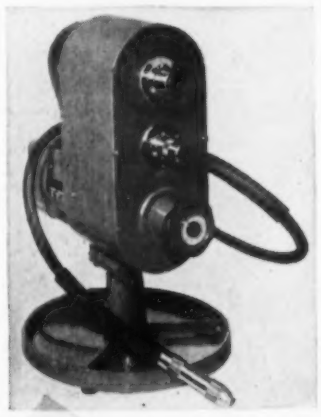
ONE PIECE ALUMINUM FRAME: LOW CENTER OF GRAVITY FOR SAFETY: 4 CYCLE, RED SEAL CONTINENTAL MOTOR: HAND CONTROL: AUTOMATIC, VARIABLE SPEED TRANSMISSION: TIMKEN ROLLER BEARING, PNEUMATIC TIRED WHEELS: POWERFUL BRAKES: WEIGHS ONLY 215 LBS. *Can be Custom-built for Specific Needs.*

WRITE OR CALL

TOOLCRAFT CORPORATION Dept. ED
Globester Motor Scooter Division • Richmond, Illinois

For more details circle NED-13 D4 on enclosed inquiry slip

HAND GRINDER
speed varies from 700 to 50,000 rpm



Speeds variable from 700 to 50,000 rpm are provided by this Ultra-Flex hand grinder used to actuate carbide burrs, mounted wheels, abrasive disks, buffing wheels and grinding wheels from 1/16 to 7 in. diameter. The 1-hp, three-phase motor with V-belt pulley drive delivers accurate selected speeds even under full load. Speeds are selected by hand dial. Made by **Metal Removal Co.**, 1548 N. Orleans St., Chicago 10, Ill.

For more details circle NED-15 D4 on enclosed inquiry slip

Cylinder Reclamation

Van der Horst Corp. of America—12-page illustrated bulletin ". . . on Porus-Krome" shows how hard chrome plating processes can be used to reclaim diesel and other cylinders or to increase life of new engines incorporating the plating. Both large and small cylinders can be treated economically. Special applications such as chrome-plating over aluminum in aircraft engine cylinder bores are shown.

For more details circle NED-16 D4 on enclosed inquiry slip

Browning SPROCKETS

OFF-THE-SHELF READY-FOR-USE
A Time and Money Saver with

Split Taper Compression Bushings
• NO REBORING
• NO WELDING

Write for Catalog CD 101.
There's a Browning Distributor near you.

BROWNING MANUFACTURING COMPANY MAYSVILLE • • • KENTUCKY

For more details circle NED-19 D4 on enclosed inquiry slip

The pick of the field- ARco RUBBER INSULATED METAL PARTS . . .

- Standard or special ARco clips, clamps and other rubber insulated metal parts . . . these can add electrical and sound insulation; corrosion and abrasion resistance to cable, loom, tube, wire, rod and pipe products.

You can improve the utility and durability of your product by requesting expert ARco engineering counsel; sample rubber insulations on your standard parts, and quantity estimates. These ARco services are yours without obligation.

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ANYTHING CAN BE COVERED WITH RUBBER BY . . . ARco

For more details circle NED-14 D4 on enclosed inquiry slip

FOR PRECISION Carbide Finishing

ELGIN DIAMOND IN DYMO-C
...Designed for Carbides!

Where precision quality counts, finishers specify ELGIN Diamond because they can be sure of:
- *consistant accuracy—uniform cutting action*
- *flawless finishes every time, in less time*

Actual field tests prove this new diamond abrasive up to 20% faster for finishing carbides.

Send for the DYMO-C bulletin today!

ABRASIVES DIVISION, Dept. I
ELGIN NATIONAL WATCH COMPANY
ELGIN, ILLINOIS

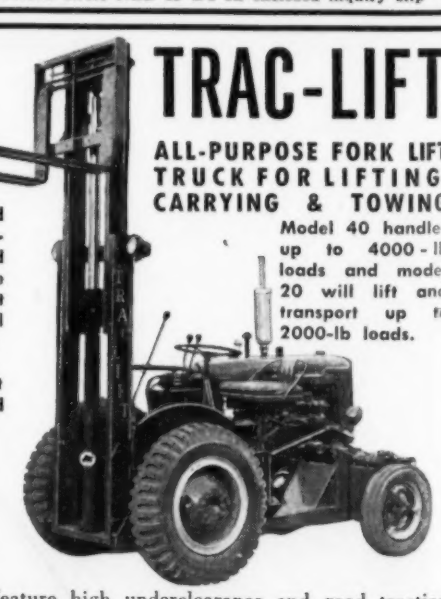
For more details circle NED-17 D4 on enclosed inquiry slip

TRAC-LIFT

ALL-PURPOSE FORK LIFT TRUCK FOR LIFTING, CARRYING & TOWING

Service and parts for engines and chassis are available at International Harvester dealers throughout the United States

Model 40 handles up to 4000-lb loads and model 20 will lift and transport up to 2000-lb loads.



Machines feature high underclearance and good traction for use on rough terrain as well as on paved areas both indoors and out. Powered by International Harvester gasoline Tractor engines and Chassis of proven ability and long service, units have standard 96-in. lifting heights, with 72, 108 and 120 in. lifts optional. Both have power forward tilt of 4 degrees and backward tilt of 10 degrees. Power hydraulic lift and tilt system are engineered for easy maintenance and safety.

Optional equipment includes head and rear lights, 1/3-cu yd loading bucket, 6-ft snow and dozer blade, and 8-ft loading boom. *For complete information, write to:*

★ ★ ★ ★ ★ PIPER & PAINE
NUNDA, NEW YORK

For more details circle NED-20 D4 on enclosed inquiry slip

DIAMOND DRESSING TOOLS ARE VALUABLE—INCREASE THEIR LIFE WITH

DIAMOND-MISER

Hydraulically operated, completely automatic diamond tool index.

Wheel Trueing Hydraulic Diamond-Miser operates from hydraulic system of machine; provides precise diamond indexing and hydraulic accuracy of operation. Greatly extends diamond life by eliminating common causes of diamond spoilage and waste. Available for centerless, cam, crank and universal grinders, single or multiple wheel mounts.

Send for Informative Book and Price List.

WHEEL TRUEING TOOL COMPANY

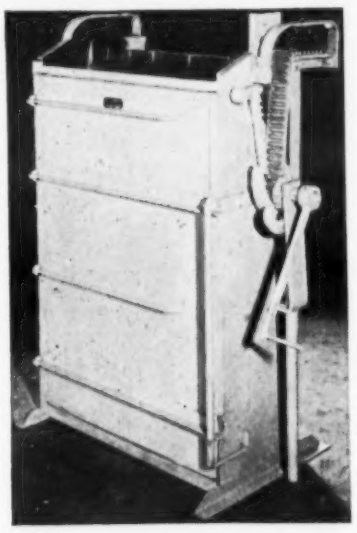
47-3200 West Davison Avenue • Detroit 38, Michigan

For more details circle NED-21 D4 on enclosed inquiry slip

HAND OPERATED BALERS STOP MESS

Compresses PAPER-RAGS-WASTE--some METALS - - and many other materials into UNIFORM BUNDLES for:

- ECONOMY IN HANDLING
- SPACE SAVING
- GOOD HOUSEKEEPING
- FIRE PREVENTION
- EASE OF DISPOSAL
- PROFIT



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Write for full information to:

EAST CHICAGO MACHINE TOOL CORP.

4801 Railroad Ave., East Chicago, Ind.

For more details circle NED-22 D4 on enclosed inquiry slip

New **MANUAL METAL SHRINKER**

for Fast, Accurate Metal Shrinking

Handles metals of .016" to .051" without adjustment.

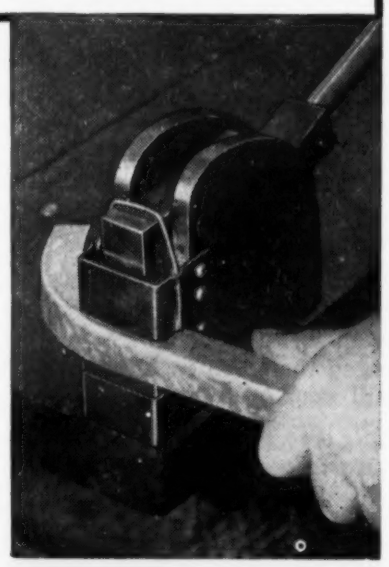
Shrinks angles to a radius as small as 3". Shrinks angles up to 1" wide.

Reversible, hardened steel jaws provide double life.

Compact, portable—can be mounted on a bench stand or in a vise.

Only

$39.50



Write for folders on a wide variety of industry-proved tools to

M-M-A INC.—LANCASTER, PA.

For more details circle NED-23 D4 on enclosed inquiry slip

PILLOW BLOCK

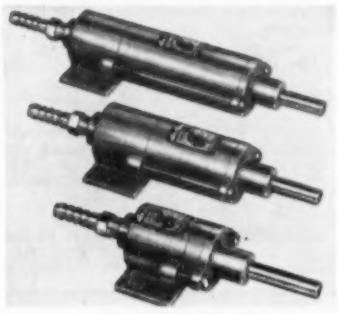
improved self-aligning type

Ball assembly of this self-aligning pillow block is now made by forming steel into a true spherical shape, resulting in easier alignment because of smoother metal surface. Unit also features a larger oil reservoir than previous type. Design is available with graphited bronze bushings or with sintered bronze bushings in sizes from ½ to 1 in. inclusive. Made by **Randall Graphite Bearings, Inc.,** 1007 S. Greenlawn Ave., Lima, O.

For more details circle NED-24 D4 on enclosed inquiry slip

MIDGET AIR CYLINDERS

with 1, 2 or 3-in. strokes

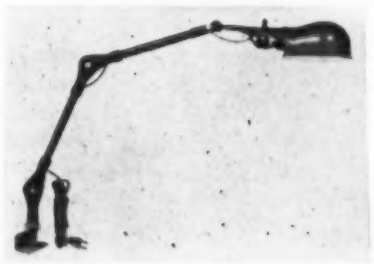


Single-acting type H-1-X air-clamp cylinders have 1-in. diameter bores and are available in standard stroke lengths of 1, 2 and 3 in. They are provided with spring return and are designed to fulfill clamping requirements where maximum stroke length is required and limited space is available for mounting. Made by **Mead Specialties Co.,** Dept. S-40, 4114 N. Knox Ave., Chicago 41, Ill.

For more details circle NED-25 D4 on enclosed inquiry slip

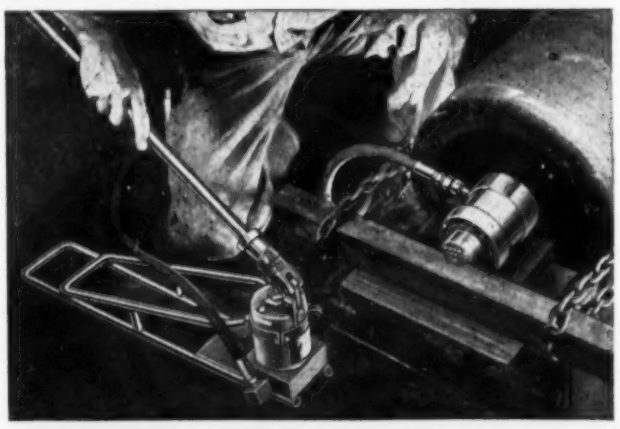
MACHINE TOOL LIGHT

adjustable to various positions



Arm joints of tension disk design for easy adjustability with one hand are incorporated in the Localite line of lights for illuminating machine tools, inspection operations and assembly benches. Reflectors, available in several designs, rotate 360 degrees. A universal base provides for either vertical or horizontal mounting and is also adaptable to outlet boxes. Wiring includes a McGill industrial socket with Levolier switch and 8 ft of heavily insulated, oil resistant wiring. Models are available with one, two or three arms and are listed by Underwriters' Laboratories. Made by **Fostoria Pressed Steel Corp.,** 1240 Harris Rd., Fostoria, O.

For more details circle NED-26 D4 on enclosed inquiry slip



For quickly and easily pulling bearings, bushings, and liners on electric motors

. . . use the Duff-Norton remote controlled "Lo-Hite" Hydraulic Jack with detached independent pump. The ram when closed is only 4½ inches high, yet can safely move 30 tons 2 inches in any direction. The independent pumping mechanism is connected to the jacking ram by an 8-foot flexible rubber hose. Safe, sturdy, precision-built for trouble-free service, the "Lo-Hite" is winning new users everywhere.

Ask your local distributor for the "Lo-Hite" (No. 30-H-4.5), or write the world's oldest and largest manufacturer of lifting jacks for Bulletin AD-32-N and name of the nearest distributor—The Duff-Norton Manufacturing Company, P. O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS

For more details circle NED-27 D4 on enclosed inquiry slip

STRIP WIRE FAST and CLEAN with an IDEAL "E-Z" Stripper

RUGGED — ALL STEEL

A heavy duty stripper that's as easy to use as pliers. Does not score or damage wire. At end of stripping stroke, automatic lock prevents snap-back and crushing of stranded wire. Part of stripping blade can be used as wire cutter. Blades are hardened steel and are replaceable. Six models handle wire gauges No. 8 to No. 26; also 300 ohm TV wire.

SOLD THROUGH LEADING DISTRIBUTORS ★ MAIL COUPON for Catalog Data

IDEAL INDUSTRIES, Inc.
1032 Park Avenue, Sycamore, Illinois
Please send catalog data on "E-Z" Automatic Wire Stripper.

Name_____
Company_____
Address_____
City_____ Zone____ State____

For more details circle NED-28 D4 on enclosed inquiry slip

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MANUFACTURER OF . . .

- **PUMPS** FOR EVERY REQUIREMENT
- **COMPRESSORS** FOR DURABLE SERVICE
- **REFRIGERATION** EQUIPMENT FOR EVERY NEED
- **AIR CONDITIONING** FOR ANY CAPACITY

PIONEER PUMP AND COMPRESSOR CO.

374-378 Verona Ave., Newark 4, N. J.

OFFERING 24 HOUR . . .

EMERGENCY REPAIR SERVICE

HUMBOLDT 2-3727-8

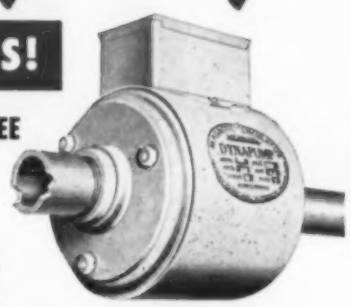
WRITE FOR LIST OF OUR DEALERS

For more details circle NED-29 D4 on enclosed inquiry slip

Give your product these

Dynapump

ADVANTAGES!



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- **LEAKPROOF** *No shaft seal or stuffing box*
- **EASILY INSTALLED** *Compact, light, may be mounted in any position*
- **CORROSION FREE** *Stainless steel*
- **LOW FIRST COST**

Magnetic Fostoria Pumps

The revolutionary DYNAPUMP is a magnetically driven fractional horsepower centrifugal pump that eliminates 90% of pump difficulties. It is suitable for pumping water, solvents, refrigerants, corrosive or hazardous fluids, beverages, etc. Write for descriptive folder.

THE FOSTORIA PRESSED STEEL CORP., Dept. 408, Fostoria, O.
"Our 38th Year of Quality Products"

No. 5404

▲ For more details circle **NED-30 D4** on enclosed inquiry slip ▲

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EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

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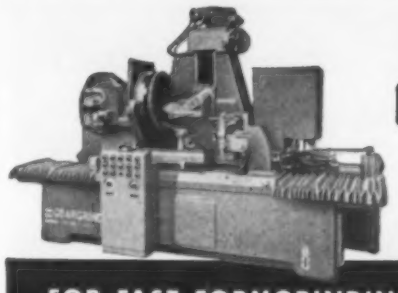

Geargrind Automatics

FOR FAST FORMGRINDING OF GEARS, SPLINES, SPECIAL-CONTOURED PARTS

Here's the quick, accurate way to turn out a wide range of parts—for aircraft, automotive, machinery, and other applications. The continuous production rate of versatile Geargrind Automatics is not exceeded by any other similar-purpose machine.

THE GEARGRIND AUTOMATICS ARE DESCRIBED AND ILLUSTRATED IN THIS NEW BROCHURE
WRITE FOR IT TODAY **(on your letterhead, please)**

The Gear Grinding Machine Co., 3925 Christopher, Detroit 11

GEARGRIND Detroit

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NEW FROM MORSE!

unusually compact

CAM CLUTCH!

- Backstops, indexes, overruns
- Simple
- Easily Installed
- Same OD's as 200-series bearings

Simplicity of design, ease of installation and maintenance make Morse 200-Series Cam Clutches as readily adaptable as bearings to numerous industrial applications. Ground to the same outside diameters as 200-series bearings, they will fit housings bored to accommodate these common bearing sizes.

The Morse 200-Series Cam Clutch combines maximum torque capacity with minimum space requirement. It is a self-contained assembly, furnished without inner races, and can be mounted directly on shafting. Clutches are furnished prelubricated, ready for immediate installation.

Get more details. Send today for Morse Catalog C 12-54.

Morse Chain Company
7601 Central Avenue
Detroit 10, Michigan

MORSE

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LEAD SCREW TAPPING HEAD
fits quill of any drill press

Advantages of this Auto-Tap lead screw tapping head are rapidly interchangeable lead screw, cone clutch reversing mechanism and positive depth control to assure perfect threads even in blind or recessed holes. Tap breakage and work spoilage are minimized because mechanism is actuated before tap engages work and lead screw guides tap in and out of work. A Jacobs Rubberflex collet and nut aligns tap which is driven positively by floating lock assembly. Head attaches to quill of any drill press and can be adapted for semi- or fully-automatic precision tapping. Models are available for tapping No. 0 to 5/16-in. and No. 10-32 to ¾-in. threads. Made by **Automatic Methods, Inc.**, Div. 153, 965 W. Grand St., Elizabeth, N. J.

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need volume production?

get it here—in ***plastics*** *molded by General American*

Manufacturers who never dreamed of using plastics for parts or products are getting results they've always wanted at General American's huge plants!

Big Volume Production—fast, at low cost, with color, fine finish and difficult designs *molded in*. These products are molded on batteries of injection presses ranging up to 300 ounces, compression presses up to 2,000 tons, and a variety of sizes of reinforced plastics presses.

New Sales Appeal, New Products, New Ideas can take shape when General American's start-to-finish facilities join your team. Experienced men with equipment unmatched anywhere will work with you on every phase of production.

Talk over your requirements and ideas with a General American engineer.

Plastics Division — General American

Plastics Division

GENERAL AMERICAN TRANSPORTATION CORPORATION
135 South La Salle Street • Chicago 90, Illinois

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INCREASE HEATING EFFICIENCY

LOWER HEATING COSTS

with **CHROMALOX** *Electric* **HEATERS**

EASY TO INSTALL • ECONOMICAL TO USE

Want the quick, low cost answer to almost any heating problem in your plant? Get it with Chromalox Electric Heaters! Over 15,000 types and sizes for heating dies, molds, platens; for preheating oil and superheating steam; for heating asphalt, greases, oils; for drying, curing, baking, dehydrating and other heating jobs. See how Chromalox Electric Heat can help cut your costs!

THIS CATALOG may be worth money to you

Write today for your copy.

18-36

Industrial Div., EDWIN L. WIEGAND CO. 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on Pg. 75

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

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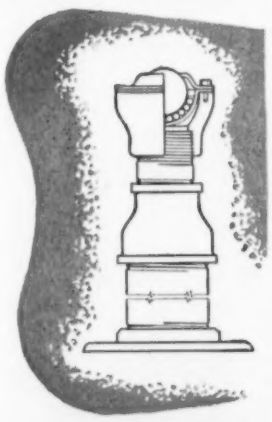
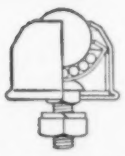


Logan Ball Pedestal units consist of a large steel ball which rotates on a bed of smaller balls contained in a hardened steel cup with semi steel housing.

BALL PEDESTAL

Logan Ball Pedestals are particularly adapted to handling sheets or plates around shears and punch presses or other machines. The ball units permit turning or moving the plates in any direction and the pedestal construction provides a means of conveying without blocking the working area.

Logan offers Ball Pedestal units in several different sizes. Further information on request.



Ball Transfer units also available for table mounting.

Logan Conveyors

LOGAN CO., 215 CABEL ST., LOUISVILLE, KY.

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WHERE R-B PUNCHES Cut Your Costs . . .

• IN DIE DESIGNING

. . . you save "board time" by working with the standardized R-B concept of punches, die buttons, punch retainers and die button retainers. R-B standardized equipment reduces drafting time to cut your costs.

• IN DIE CONSTRUCTION

. . . you save "building time" because R-B punches, die buttons, punch retainers and die button retainers are furnished completely finished. R-B saves skilled die-maker's time to cut your costs.

• IN DIE OPERATION

. . . you save "press time" because R-B punches and die buttons are instantly removed and replacements quickly inserted. Inherent accurate alignment and positive locking keep press down-time at a minimum to cut your costs.

Use R-B Engineering Service for Your Tough Piercing Problems

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 75 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

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MEMO FROM P&R JAKE RUTZEBECK

Here's one that will fit your remodeling program like a glove!
J.D.R.

HANDY ANGLE SAW

A rugged, all-purpose saw built to your job specifications and at a price that defies comparison! Cuts all materials—wood, sheet metal, even pipe. Tops 'em all!

IN EASE OF USE Just 7" long, weighs only 1 lb. 6½ oz. Special hand-shaped body with right angle motor mounting for tight spots. Blades are reversible for right and lefthanders.

IN ALL WAYS USEFULNESS Use on ¼" drills or flexible shafts, at any speed 1800 to 3500 R.P.M. Contour-cutting "bayonet" blades or rigid "taper" type—choice of 10, 14 or 18 teeth per inch.

TROUBLE-FREE GEARLESS MECHANISM
FULLY GUARANTEED

just **$13.75*** *including blade assortment at your jobber*
*FOB Hayward, Calif.

PRICE & RUTZEBECK
POST OFFICE BOX 30
HAYWARD, CALIFORNIA

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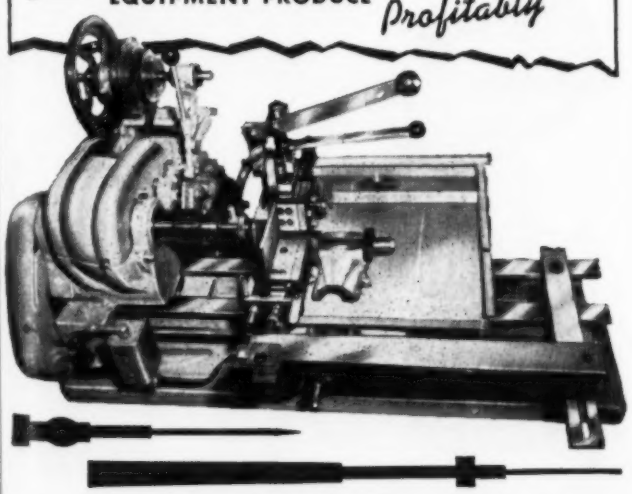
HOW TO MAKE WORN AND OBSOLETE EQUIPMENT PRODUCE *Profitably*

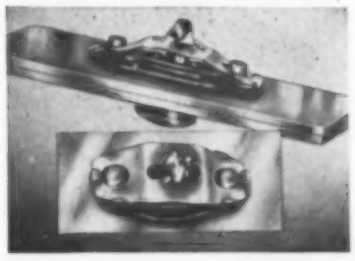


New Karge Profile-Tracer TURN-MAT Attachments. Low cost—economical—turns work never before possible, any metal or plastic bars, 1/32" to 3½", to closest tolerances and micro finishes, all with single cut and single point tool. No Bushings, No Steady Rests, No Centers, No Rollers, No Holes to Drill—Set up or take down in 5 minutes. Write for complete details or demonstration in your shop.

Dept. NE **TURNOMAT COMPANY, INC.**
BROCKPORT, NEW YORK

▲ For more details circle NED-39 D4 on enclosed inquiry slip ▲

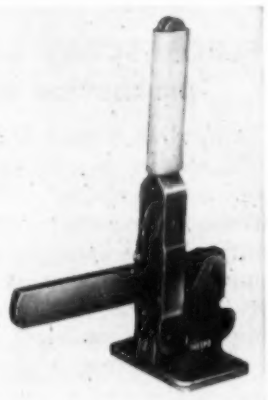
HIGH STRENGTH FASTENER locks and opens in quarter-turn



Self-contained one-piece stud type fastener is quick locking and quick opening. It withstands a shear load of 4750 lb, has a tensile strength of 3000 lb, permanent set after load of 0.000-in. and good vibration resistance. The model HO Hi-Strength fastener locks with a quarter-turn clockwise and unlocks in the opposite way. Overall size is 0.680-in. wide by 0.407-in. diameter, and permissible misalignment between sheets being fastened can be as much as 0.125-in. Made by **Lion Fastener, Inc.**, 650 Main St., Honeoye Falls, N. Y.

▲ For more details circle NED-40 D4 on enclosed inquiry slip ▲

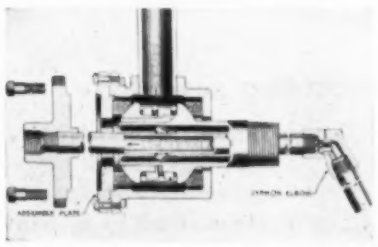
TOGGLE CLAMPS in over 35 sizes



Hardened steel bushings and pins minimize wear at bearing points on this line of toggle clamps comprised of over 35 sizes. They are made for light, medium and heavy pressure loads with clamping pressures from 80 to 1600 lb. Made by **West Point Mfg. Co.**, 26943 W. Seven Mile Rd., Detroit 19, Mich.

▲ For more details circle NED-41 D4 on enclosed inquiry slip ▲

ASSEMBLY PLATE & SYPHON ELBOW minimize rotating roll maintenance



One of two developments for reducing maintenance time in insertion and removal of mechanical syphon pipes in rotating rolls or drums is special assembly plate now available with redesigned type J rotary pressure joint. Syphon pipe can be removed without disturbing joint proper or steam inlet connection. Other product is hinged syphon elbow to which two straight pipes can be threaded, eliminating need for curved pipe serving as mechanical syphon pipe. As first pipe is inserted in roll or drum, its weight closes elbow, enabling stainless steel seat to create closed line that is leak and pressureproof. Made by **Johnson Corp.**, 812 Wood St., Three Rivers, Mich.

▲ For more details circle NED-42 D4 on enclosed inquiry slip ▲

NO METAL PARTS TOO SMALL TO CLEAN *Perfectly*

in the L&R

INDUSTRIAL PRECISION CLEANING MACHINE

For more than a decade industry has cleaned its smallest, most precise metal parts in this machine that employs the famous L&R Centrifugal Cleaning Action. In the Work Basket, measuring 3⅜" deep by 5½" I. D., typical parts, like those shown can be cleaned, rinsed, polished and dried in less than ten minutes—with three sets of parts separated by use of triple nesting baskets shown above. To eliminate a major production headache, order your L&R Industrial Cleaner today, or write for further catalog information.

Price complete____$262.50

L&R Manufacturing Co., • 579 Elm St., Arlington, N. J.

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TIMERS FOR PRODUCTION

FOR ALL INDUSTRIAL TIMING PURPOSES

FULL ASSORTMENT FOR IMMEDIATE DELIVERY

LEONIDAS No. 363 Decimal Timer. 7-Jewel Lever—High Quality Accurate Movement—Double Back Chromium-plated Case. We guarantee and service all timers sold by us. Free illustrated pamphlet sent promptly on request. Send all inquiries to:

MERIT WATCH CO., INC.
INDUSTRIAL SALES DEPT.
630 FIFTH AVE., NEW YORK 20, N. Y.

▲ For more details circle NED-44 D4 on enclosed inquiry slip ▲

The instrument man's "Man Friday"

You'll never run out of uses for this high-fidelity Foxboro Portable Potentiometer. Use it to check overall accuracy of your temperature instruments and thermocouples; as a substitute temperature instrument during emergencies; for exploring temperatures not requiring continuous measurement.

Accurate to ¼ of 1% of scale. Extra-long (17") scale for close, accurate reading and *vernier dial* for precise balancing. Weighs only 12½ lbs. Rugged metal case-and-cover. Write for details. **The Foxboro Company, 664 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO REG. U. S. PAT. OFF. PORTABLE POTENTIOMETERS

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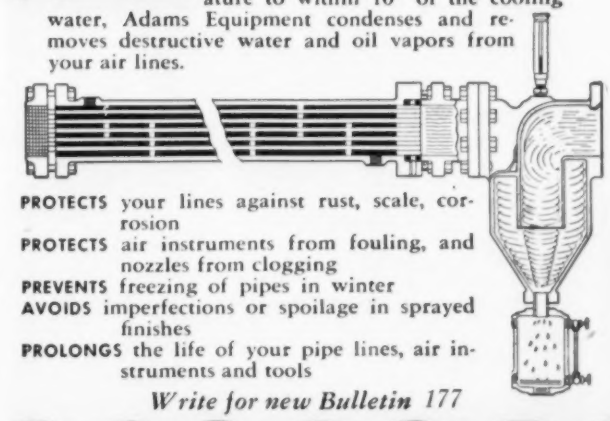
You Can be Sure of Clean Dry Air for your Compressed Air Tools with ADAMS Aftercooler and Cyclone Separator

3500 Gallons 1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 177

R.P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

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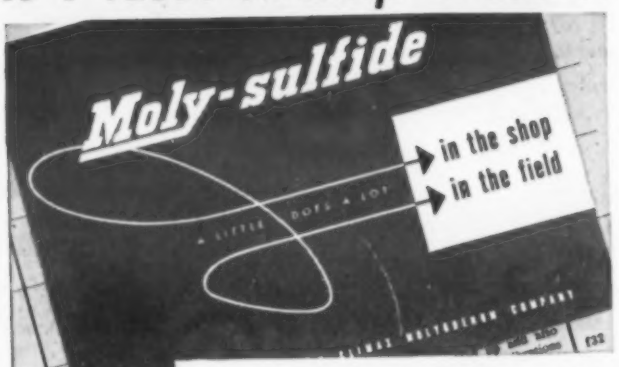
154 ideas on ways to use...



154 varied applications of molybdenum sulfide in the shop and in the field are described in a new booklet now available. This solid-film lubricant has demonstrated unique anti-friction properties under conditions of extreme pressure, high velocity, elevated temperature, or chemical attack.

The 40-page booklet contains the records of solved lubrication problems—some might solve your own. Write now on your business letterhead for this booklet.

Moly-sulfide
A LITTLE DOES A LOT

The lubricant for extreme conditions

MS-6A

Climax Molybdenum Company
500 Fifth Avenue, New York City 36, N.Y.

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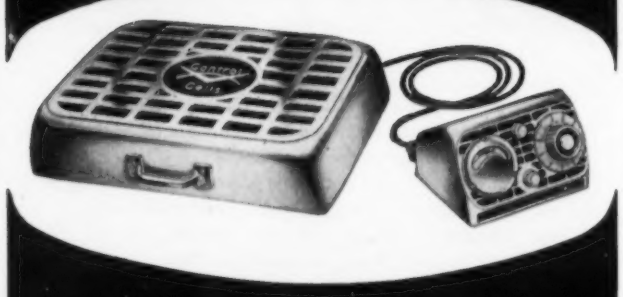
Control Cells

Announcing Portable

ELECTRONIC SCALE



Handles up to 20 tons—weighs only 35 lbs.!
Carry it anywhere
Weigh large loads easier and faster

Set it up in seconds—for any job! When weighing's done pick up the scale and carry it to other work. No special installation needed, no tools. And no costly maintenance. The Control Cells Electronic Scale is unaffected by weather, temperature, or rough usage. Has no vacuum tubes or fragile parts and withstands *overloads* up to 10 tons.

Dial may be placed at the work or remotely connected. Several platforms may be hooked up to read through one indicator. Readings are instantaneous and accurate.

The Control Cells Electronic Scale or Weight Indicator offers almost endless possibilities for new weighing techniques—new savings in handling and processing operations. Reasonably priced.

Send for complete literature. Engineered applications also available for built-in installations.

CONTROL CELLS CORPORATION
511 North Hillside • Wichita 6, Kansas

CONTROL CELLS CORPORATION
Engineering Department
511 North Hillside, Wichita 6, Kansas

Please send me complete information about your new Electronic Scale.

Name.....

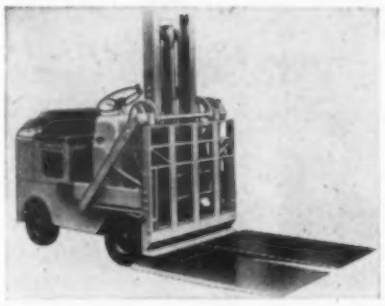
Position.....

Firm.....

Address.....

▲ For more details circle NED-48 D4 on enclosed inquiry slip ▲

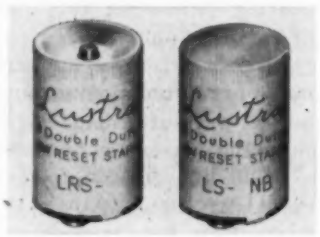
LOADING DEVICE
for handling pallet-type loads



Designed for handling unit loads, Tow - Loader attachment for fork lift trucks makes possible use of pallet sheets instead of conventional fork entry type pallets, with consequent savings in space and shipping weight. Fitted with a gripping device built into the pusher frame, unit pulls the palletized load onto either blades or forks and pushes it off at set-down points. Low-cost pallet sheets can be left with the unit loads so that they can readily be handled by a similarly equipped truck at the receiving point. Made by **Towmotor Corp.**, 1219 E. 152nd St., Cleveland 10, O.

▲ For more details circle NED-49 D4 on enclosed inquiry slip ▲

FLUORESCENT LAMP STARTERS
pushbutton or automatic reset types



Encased in a gold anodized can as a safeguard against corrosion, Gold-Tone fluorescent lamp starters are available in push-button or automatic reset models. UL approved, they automatically cut a defective lamp out of the circuit, prevent blinking and eliminate destructive ballast overheating. They are available for standard lamps ranging from 15 to 100 w output. Made by **Lustra Corp. of America**, Dept. S, 36 Washington St., Brooklyn 1, N. Y.

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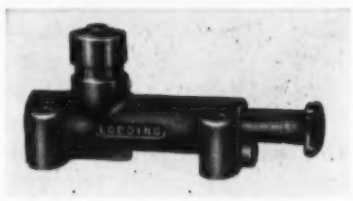
WORK SUPPORT
facilitates machining setups



Low overall height of this horizontal - type heavy duty jack provides stability in handling heavy loads and allows its use in confined spaces. Jack is used to support materials or parts being machined. Working mechanism is protected against chips and dust by a cap. Working parts are hardened tool steel, while all parts are coated with Parkerized jet black finish to prevent rust. Unit is offered in three sizes. A vertically constructed spring jack is available for lighter work and special requirements. Made by **Lodding, Inc.**, Dept. N27, 79 Beacon St., Worcester 1, Mass.

▲ For more details circle NED-51 D4 on enclosed inquiry slip ▲

ALLEN

PRESSURE TYPE ICE WATER COOLERS

- **LOW INITIAL COST**
- **LOW OPERATING EXPENSE**

ALLEN COOLERS WILL SERVE MORE EMPLOYEES PER COOLER THAN OTHER TYPES OF WATER COOLERS.

NO MOVING PARTS, NO SERVICE REQUIRED. RUGGED CONSTRUCTION FOR YEARS OF TROUBLE-FREE SERVICE IN PLANTS OR OFFICES.

FINISHED IN BROWN OR GRAY BAKED SYNTHETIC ENAMEL.

YOU CAN BUY DIRECT FROM THE ALLEN FILTER COMPANY.

100 LB. ICE CAPACITY **$73.70**
50 LB. ICE CAPACITY **$63.80**

THE ALLEN FILTER CO.
25 South St. Clair Street, Toledo 4, Ohio
60 years of service to manufacturing industries

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CHAMPION E-X-P-A-N-D-I-N-G MANDRELS

give speed to every set-up

The flexible sleeve, mounted on tapered arbor, expands automatically to fit the hole. Inserted by hand—no arbor press needed. Always an exact, positive, concentric fit. Locked by a single mallet blow. Unlocked the same way. CHAMPION Expanding Mandrels are used in machine shops around the world. Save time, cut production costs, whether the job calls for machining one piece or a thousand.

Precision Model has expansion range of .010". Available in regular sizes to fit holes from ½" to 3" diam. Holds work to tolerances of .0002" run-out. Guaranteed for precision grinding, turning and milling operations.

Standard Model maintains close tolerances, handles material of any length bore, hard or soft metals—from thin tubes and bushings to heavy castings and forgings. A set of fourteen will fit every hole from ½" to 9½" diam.

CHAMPION *Expanding Mandrels can be made in special shapes and sizes to fit any specifications. Quotations on request. Write for descriptive folder today.*

WESTERN TOOL & MFG. CO., INC.
Dept. 29 Springfield, Ohio

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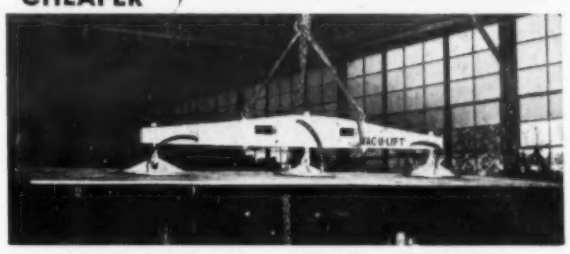
VAC-U-LIFT
Lifts Anything.....

FASTER
BETTER
CHEAPER
Materials Handling



OBSOLETES ALL OTHER METHODS

"Vac-U-Lift", the all purpose Material Handler is a time saver and money maker. It's so easy to use, so inexpensive to operate that other methods can't match it for efficiency and economy.

"Vac-U-Lift" lifts heavy objects without customary prying and blocking. "Vac-U-Pads" supply lifting power of approx. 1000 pounds each with ample safety factor. Many sizes and designs available, or we will build a unit to your specifications.

FREE illustrated literature gives complete details. Write today. (All Patent Rights Reserved)

BLAKESLEE VAC-U-LIFT

BLAKESLEE
MANUFACTURING CO., Inc.
SALEM, ILLINOIS

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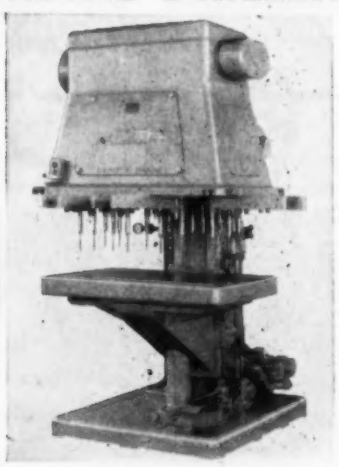
MULTIPLE METAL DRILLER

up to **16** HOLES
OVER A **3'x18"** AREA
IN **ONE** PASS



Style F400 MULTIPLE DRILLER

An outstanding, versatile, labor-saving driller—has unique features for quick, close tolerance set-up and fast, low-cost production—drills steel tubing, pipe, axles, plates, shapes, iron castings and light metals. Write for full data.

B. M. ROOT CO.
YORK — PENNA.

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NEW Ejectopump

COMPRESSED AIR OPERATED

for ABRASIVE and INFLAMMABLE LIQUIDS and SEMISOLIDS

Requires no lubrication

NO GLANDS

NO BEARINGS

NO MOVING PARTS

Now available for the first time in the U. S. Especially suitable for handling latex, bitumen, paint, chocolate, fruits and vegetables suspended in water, pottery slip, carborundum slurries, and various chemicals. Will not cause aeration or coagulation of materials. Available in 1½", 2", 3", 4" and 6" sizes.

Write today for complete details.

FERRO

FERRO CORPORATION
Supplies Division
4181 EAST 56th STREET • CLEVELAND 5, OHIO

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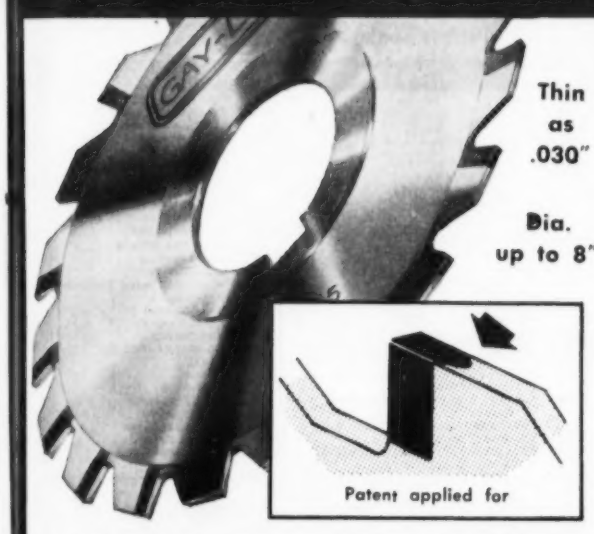
CARBIDE TIPPED

THINSAW

FOR EVERY INDUSTRY



CIRCULAR SEAT GIVES GREATER BRAZE AREA—BETTER TIP SUPPORT

This exclusive Gay-Lee carbide tipped saw design has completely changed the slitting, slotting and sawing picture. Now carbide tips stay in and run-out is eliminated. You get the full benefit of carbide's faster cutting ability.

WHAT IS YOUR SAW PROBLEM?

We are specialists in carbide saw design and manufacture. We have solved some tough jobs and some big ones. Can we help you?

Hub Saw — Thinsaw — Small Saw

Carbide teeth profile ground on Special Order

WRITE FOR DATA

GAY-LEE COMPANY
CLAWSON • MICHIGAN

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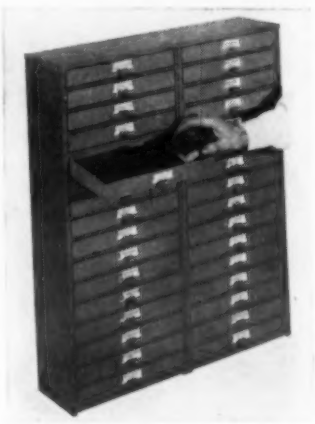
PRESS FEED TABLE
electrically powered hydraulic unit

Available in any reasonable capacity, platform size or lift, this electric-hydraulic feed table for presses is mounted on a frame similar to that used for portable elevators. Unit is bolted to the floor, but can be moved if layout is changed. Model shown has a capacity of 4000 lb, 64 x 44-in. platform and lift of 36 in. from lowered height of 2¾ in. Oil tank, pump, valves and motor are combined in a single unit which can be mounted at any convenient point. A constant pressure or "deadman" pushbutton is incorporated. Made by **Revolvator Co.**, 2032 86th St., North Bergen, N. J.

▲ For more details circle NED-58 D4 on enclosed inquiry slip ▲

WELDED STEEL CABINETS
in 8, 16 or 32-drawer models



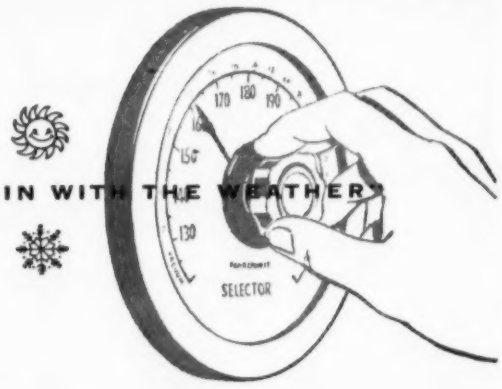
Maximum space economy as well as orderly indexed storage for electros, zinc and wood cuts, mats, rubber plates and drafting and art supplies is provided by Haz-Bin, Jr. welded steel cabinets made in 8, 16 or 32-drawer sizes. Units have enclosed steel back with key-holes for hanging on wall or the ends of shelving. They have rubber feet to protect benches or counters and are finished in baked-on gray hammertone enamel. Units can be stacked, used side-by-side or mounted back-to-back. Drawers are zinc bonded electrocoated and are rustproof. They measure 11½ x 5⅞ x 1 7/16 in. in all three models and have safety-catch to prevent pulling out too far. Made by **Akro-Mils, Inc.**, P. O. Box 989E, Akron 9, O.

▲ For more details circle NED-59 D4 on enclosed inquiry slip ▲

Small Flexible Shaft Machines

Stow Mfg. Co.—How such finishing operations as filing, sanding, polishing, buffing, grinding and wire brushing can be performed efficiently and without fatigue with flexible shaft machines is shown in 2-page illustrated bulletin 536. Shown are ¼ and ½-hp machines and tool shafts which can be connected to motors.

▲ For more details circle NED-60 D4 on enclosed inquiry slip ▲



illinois Selectotherm

Investigate this modern development in automatically controlled heating!—a high vacuum steam heating system with "single dial control" that assures the ultimate in comfort, economy and convenience. Heat supply is balanced against heat loss to provide an even and constant warmth that is always exactly right.

Ideal for schools, hospitals, churches, apartments, commercial and public buildings *of any size*—either new or existing—where boilers are used for low pressure steam heating only—with any type of fuel and any form of mechanical firing device.

Write for Bulletin 540 and learn how Selectotherm reduces fuel consumption and saves 20% or more compared to ordinary systems.

ILLINOIS ENGINEERING COMPANY
2039 SOUTH RACINE AVENUE
CHICAGO 8, ILLINOIS

DIVISION OF AMERICAN AIR FILTER COMPANY, INC.

▲ For more details circle NED-61 D4 on enclosed inquiry slip ▲

WEBB

TOWVEYOR*

for FASTER, SAFER & EASIER MATERIALS HANDLING

FASTER travel from loading to unloading stations—trucks are delivered to proper destination without wasted traveling time.

EASIER handling—trucks engage Towveyor chain by lowering tow pin and are disengaged at any point by raising of tow pin.

SAFER floors—Towveyor eliminates overhead chains and supports and employees can safely walk or truck over any portion of the system.

Cut your costs with a Towveyor system that will efficiently speed up your materials handling.

*Towveyor is a registered trademark identifying floor truck conveyors patented, manufactured and installed by the Jervis B. Webb Company.

JERVIS B. WEBB CO.
Conveyor Engineers and Manufacturers
8921 ALPINE AVE. • DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES

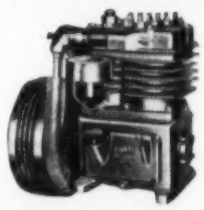
▲ For more details circle NED-62 D4 on enclosed inquiry slip ▲

GET MORE PRODUCTION PER MAN HOUR

with the Help of Dependable Efficient

Curtis

Air Compressors

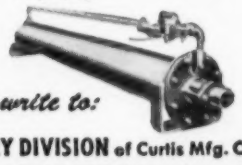


Available up to 320 cu. ft. Can be supplied base mounted up to 50 H.P. or tank mounted up to 15 H.P. Timken bearing equipped . . . precision built.

Air Cylinders and Hoists

To lift, lower, push, or pull

Pendant air hoist is ideal for lifting or lowering—Bracketed Air cylinder can be mounted in any position for lifting, lowering, pushing or pulling.



For more information write to:

CURTIS PNEUMATIC MACHINERY DIVISION of Curtis Mfg. Co.
1979 Kienlen Avenue • St. Louis 20, Missouri

764

100 Years of Successful Manufacturing Experience

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DEEP HOLE BORING

SAVE PRODUCTION TIME with our PROMPT ACCURATE SERVICE!

- **GUN DRILLING** - Lengths to 15 Ft.
- **HOLLOW BORE** - ¼" to 11" Diameter
- **HOLLOW BORED FORGINGS** - Up to 3000 lbs.
- **HOLLOW BAR STOCK** - To Specifications
- **PRECISION HONING** - 8 Micro-inch

Wire or Write . . .

HOLLOW BORING CORPORATION
85 Prescott Street
WORCESTER, MASS.

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Be fresh... Stay fresh

wear a

DUPOR No. 4

THE RESPIRATOR FOR DUST, FUMES, PAINT SPRAY

Double filters provide easy breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Has patented DUPOR valves for "controlled breathing," and panorama view without blind spots. A prime favorite for years!

Sample sent

$2.00 pp

H. S. COVER, South Bend, Ind.

For more details circle NED-69 D4 on enclosed inquiry slip

New BORG MICROPOTS

The new standard for Precision Multiturn Potentiometers . . . Eliminates the necessity for special designs.

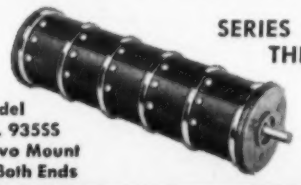
Models Available for Test and Evaluation

SERIES 901-903 TEN-TURN POTENTIOMETERS

Model No. 902BB Bushing Mount at Both Ends

Designed for utmost versatility and adaptability. New standard Borg Micropots are available in single or double shaft models with exceptionally rigid Servo-mount or bushing-mount at either or both ends.

SERIES 931-935 THREE-TURN POTENTIOMETERS



Model No. 935SS Servo Mount at Both Ends

WRITE TODAY FOR COMPLETE INFORMATION

BORG EQUIPMENT DIVISION
THE GEORGE W. BORG CORPORATION
JANESVILLE, WISCONSIN

For more details circle NED-70 D4 on enclosed inquiry slip

... engineered to OUTLIVE *your plant!*

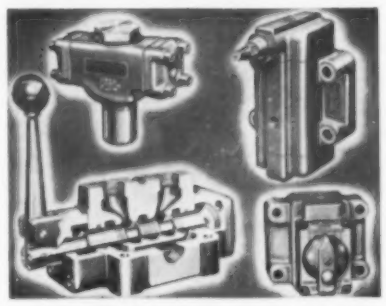
Famous Plastic Rock now unites with special steel grid reinforcing to form a practically indestructible industrial floor which withstands terrific abuse. Offered together for the first time as a complete unit—*everything included.* Non-skid, virtually wear-proof; perfect bonding, no spalling or loosening; for old or new floors of concrete or wood.

Put an end to floor maintenance. Get Bulletin 293-N-4.

UNITED LABORATORIES, INC.
16804 Euclid Avenue, Cleveland 12, Ohio
FLOORING • ROOFING • SPECIAL PAINTS
Field Representatives Coast to Coast

For more details circle NED-71 D4 on enclosed inquiry slip

HYDRAULIC VALVES line has over 3500 models



Features incorporated in line of over 3500 hydraulic valves include full-floating operating lever on directional valves to give actual "feel of the control," O-ring seals on each end of valve body, minimum pressure drop and selectively fitted spools. Directional valves are offered in threaded, flange and gasket mounted types for maximum pressures up to 3000 psi. Functional units include relief, sequence, unloading, pressure reducing, counterbalance, flow control and check valves, for pressures up to 3000 psi, depending upon type of connection. Each type is available with optional body styles, types of control, methods of operating and other features for universal application. Made by **Hydraulic Press Mfg. Co.,** Hydraulic Power Div., 1052 Marion Rd., Mt. Gilead, O.

For more details circle NED-72 D4 on enclosed inquiry slip

AIR COMPRESSORS provide up to 120 psi

Designed for heavy duty high pressure use, Hi-Pressure air compressors are available in 1/3 and ½-hp types with pressure ranges of 80 to 100 and 90 to 120 psi. They are adaptable to many jobs from spraying paint or disinfectant to greasing and inflating tires on heavy equipment. Both feature heavy gage 11½-gallon steel tanks equipped with safety valve, drain cock, pressure gage and automatic pressure switch. They are available in either stationary or portable types equipped with rubber tired wheels and handle. Made by **W. R. Brown Corp.,** 2673 N. Normandy Ave., Chicago 35, Ill.

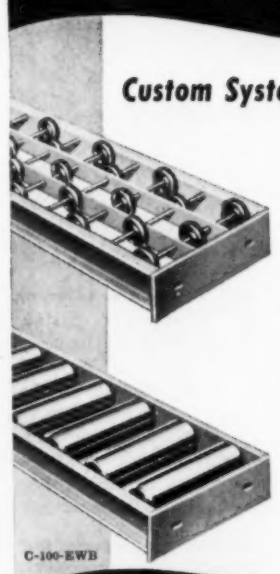
For more details circle NED-73 D4 on enclosed inquiry slip

Electric Soldering Irons

Hexacon Electric Co.—Complete listing of industrial electric soldering irons, including new additions and improvements, is presented in 4-page catalog 106. Listing covers forty models in seven distinct types, 25 to 700 w; ⅛ to 1¾-in. tips. New lines included are Super-Pencil, Pin-Point, Featherweight Hatchet, Super-Powered and Battery type.

For more details circle NED-74 D4 on enclosed inquiry slip

Buschman Wheel and Roller CONVEYORS



Custom Systems from Standard Units

Gravity conveying systems to meet your needs are set up quickly from Buschman wheel and roller components. Lightweight aluminum or steel construction and Quick-Eez coupling make rearrangement fast and easy.

Buschman wheel and roller components include straight and curved sections in three widths, switches, adjustable tubular stands and accessories.

Buschman wheel and roller conveyors are stocked at the factory and by leading distributors throughout the country, who can engineer systems to meet your needs.

Write today for Bulletin 15

C-100-EWB

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Complete Conveyor Systems For All Types of Industries
Engineered • Manufactured • Installed

THE E. W. BUSCHMAN CO.
4482 Clifton Ave. • Cincinnati 32, Ohio

For more details circle NED-75 D4 on enclosed inquiry slip

to insure performance at its best— specify... SEALMASTER BALL BEARING UNITS

Important factors in the performance of any product or manufacturing process involving motion are the bearing units carrying the load. The name SEALMASTER stamped on the bearing units of every machine you buy, use or build is your assurance of performance and long life. There is a SEALMASTER Bearing Unit to meet your every requirement.

SEALMASTER Bearing Units are available in a wide selection of standard housings. Special housings also made to order.

SEALMASTER Dealers are located in ALL principal cities. Write for Bulletin #454.

SEALMASTER

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

For more details circle NED-76 D4 on enclosed inquiry slip

NEED *Special taps* IMMEDIATELY?

Call R/N first!

The following partial list includes only those taps most frequently needed. Let us know your requirements. Telephone now.

HIGH SPEED—GROUND THREAD

MACHINE SCREW TAP SIZES			HAND TAP SIZES		
#00	80	96	5/16	11-18	10-12-14-16-20-24-27-28-32-36-40-48
#0	64-72	64-72	3/8	10-16	12-14-20-24-27-28-30-32-40
#1	56-64	48-56	13/64		10-12-14-16-20-24-28-32
#2	48-56	48-80	7/16	9-14	8-10-12-13-16-18-20-28-40
#3	36-40-48	36-40-44-52	1/2	8-14	7-10-11-12-16-18-20-24-27-32
#4	40-44	32-36-80-90	15/16		12-14-16-18-20-32
#5	32-40	32-36-48-60-64-72	17/32	7-12	8-16-20-24-28-32
#6		24-30-36-44-48-50-56-64	19/32		10-12-14-18-20
#7	32-36	20-32-36-40-44-48-64	11/16	7-12	8-10-14-16-18-20-24
#8		30-40-56-60	13/32		12-14-16-24-26-32-36-40
#9	24-32	24-30-32-36-40	7/8	6-12	8-10-14-16-18-20
#10	24-28	28-30-36-40-48-60	15/16		8-12-14-16-18-20-24
#12	20-24	20-32-36-40-48-56-60	15/32	6-12	5-8-10-13-14-16
#14		18-28-32-40	15/16		6-12-18-20-32
#16		18-20-22-28-32-36	1 1/32		5½-8-10-12-14-16-18-20-24-36
#18		18-20-32-36	1 1/16		8-10-12-16-18
#20		16-18-20-32	1 3/32		10-16-20-32-40
#22		14-16-18	1 7/32		5-8-10-11-12-14
HAND TAP SIZES			1 9/16		8-11-14-16-20
1/4	20-28	8-18-22-24-27-30-32-33-36-40-42-48-50-56-60-72-80	2		6-8-10-12-14-16-18-20
5/16	18-24	12-14-16-20-23-27-29-30-32-36-40-44-48-56-72	1/16		64-72
3/8	16-24	9-12-14-18-20-26-27-28-32-36-40-46-48	3/32		48-50-80
7/16	14-20	12-16-24-27-28-30-32-40	1/8		32-40-44-48
1/2	13-20	10-11-12-14-16-18-24-27-28-30-32-36-40	5/32		24-28-32-36-40-48
9/16	12-18	14-16-20-24-27-28-30-37	3/16		24-28-32-36-40
			7/32		24-28-30-32-36-40
			1/4		20-28-31-32-40
			9/32		20-24-28-32-40-48
			5/16		16-18-32

TELEPHONE: *LYKENS 33*

R/N REIFF & NESTOR COMPANY
LYKENS 4, PENNSYLVANIA

Specialists in tap design and manufacture

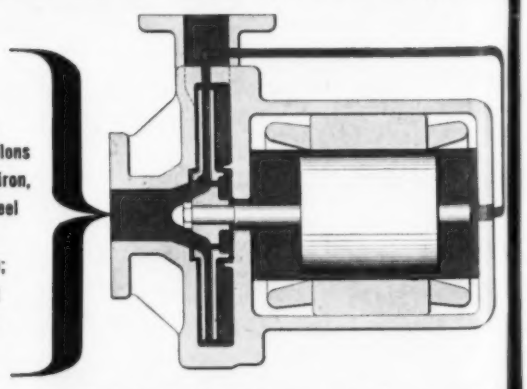
For more details circle NED-77 D4 on enclosed inquiry slip

Chempump

THE PUMP THAT CAN'T POSSIBLY LEAK

...no mechanical seals...no stuffing box

⅛ to 3 horsepower, 0 to 180 gallons per minute; iron, stainless steel or monel construction; prices start at $96.00.



Think of what this means when handling toxic, corrosive or expensive process fluids. Chempump, with its magnetically-driven enclosed rotor can work—and save—for you, too. It is performance-proved in over 6 years of field experience. Write for complete data.

CHEMPUMP CORPORATION
1304 EAST MERMAID LANE • PHILA. 18, PA.

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2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152
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4	54	104	154	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154
5	55	105	155	205	255	305	355	405	455	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155
6	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156
7	57	107	157	207	257	307	357	407	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157
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15	65	115	165	215	265	315	365	415	465	515	565	615	665	715	765	815	865	915	965	1015	1065	1115	1165
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17	67	117	167	217	267	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167
18	68	118	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168
19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169

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22	72	122	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922	972	1022	1072	1122	1172
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26	76	126	176	226	276	326	376	426	476	526	576	626	676	726	776	826	876	926	976	1026	1076	1126	1176
27	77	127	177	227	277	327	377	427	477	527	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177
28	78	128	178	228	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178
29	79	129	179	229	279	329	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179
30	80	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180
31	81	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931	981	1031	1081	1131	1181
32	82	132	182	232	282	332	382	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182
33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183
34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184
35	85	135	185	235	285	335	385	435	485	535	585	635	685	735	785	835	885	935	985	1035	1085	1135	1185
36	86	136	186	236	286	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186
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41	91	141	191	241	291	341	391	441	491	541	591	641	691	741	791	841	891	941	991	1041	1091	1141	1191
42	92	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192
43	93	143	193	243	293	343	393	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193
44	94	144	194	244	294	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194

FOLD ON THIS LINE

45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
47	97	147	197	247	297	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197
48	98	148	198	248	298	348	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1098	1148	1198
49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

PLEASE FILL IN COMPLETELY—PRINT OR TYPEWRITE

—USE THIS SLIP FOR APRIL 1954 ISSUE ONLY—

D-4

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE.....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

AVAILABLE FROM STOCK!

A NEW QUALITY CARRIER AT AN ECONOMY PRICE . . . FOR 18" 24" 30" 36" BELTS

S-A No. 745 BELT CONVEYOR CARRIER

Now, cut costs and simplify many carrier applications by ordering new S-A 745's direct from stock! Quality design and construction includes rigid welded steel frame—S-A spun-end rollers made from a single piece of heavy gauge steel tubing—labyrinth seal that keeps dirt out of ball bearings, and grease in—3-shot Alemite lubrication. Rollers can be disassembled without tools and are interchangeable.

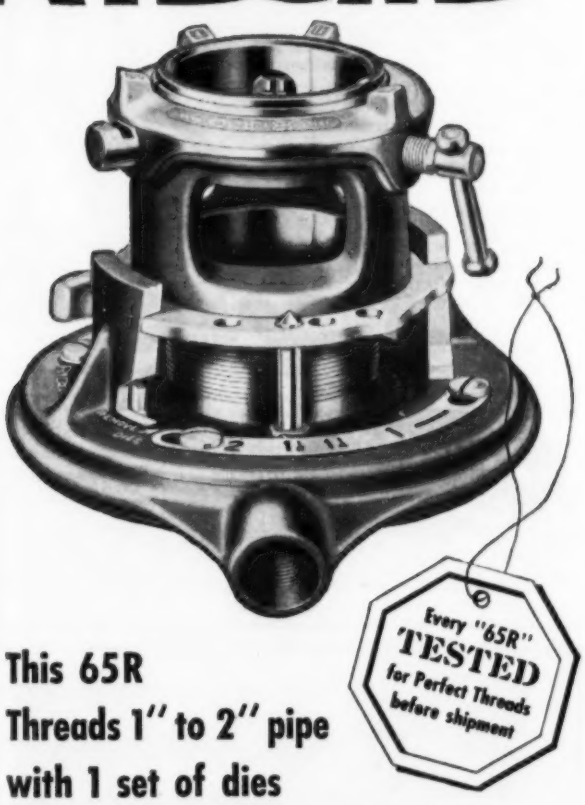
MAIL COUPON FOR FULL DATA

STEPHENS-ADAMSON MFG. CO.
Standard Products Division
12 Ridgeway Avenue, Aurora, Ill.
Please send me Bulletin on new S-A No. 745 Carriers
Name_____
Company_____
Street_____
City_____ Zone____ State_____

For more details circle NED-79 D4 on enclosed inquiry slip

For Trouble-Free Pipe Threading ...its a 65R

RIDGID



This 65R Threads 1" to 2" pipe with 1 set of dies . . . and it won't jam!

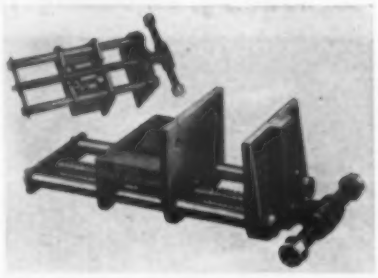
You won't find a die stock to equal this popular 65R—anywhere! It saves time—one set of self-contained high-speed dies adjust to 1", 1¼", 1½" or 2" pipe or conduit in 10 seconds! Mistake-proof self-centering workholder sets to size instantly! It saves trouble—lead screw won't jam, it kicks out automatically when standard length thread is cut. Clean perfect threads, *fast!* For trouble-free extra-easy pipe threading buy 65R at your Supply House.

THE RIDGE TOOL COMPANY · ELYRIA, OHIO, U.S.A.

RIDGID
Work-Saver Pipe Tools

For more details circle NED-80 D4 on enclosed inquiry slip

WOODWORKING VISE
quick action continuous screw type



Advantages of a quick action vise are combined with smooth operation of the continuous screw type in the model 18-A woodworking vise. Its jaw can be pushed up to the work, then tightened by a quick turn of the handle. Operation can also be in the conventional manner. Screw has a continuous buttress thread made from heavy cold rolled stock. All castings are semisteel. Vise has a pipe handle and 7 x 4-in. jaws which open to 9 in. An adjustable stop nut is built into the front jaw. Made by **Morgan Vise Co.**, Dept. 18-1, 108 N. Jefferson St., Chicago, Ill.

For more details circle NED-81 D4 on enclosed inquiry slip

POWER FORK LIFT TRUCKS
2000 and 4000-lb capacity models have high clearance, good traction

Designed for general-purpose industrial materials handling, Trac-Lift model 20 and 40 fork lift trucks with capacities of 2000 and 4000 lb have standard International Harvester gasoline tractor engines and chassis. High underclearance is combined with good traction for travel over rough terrain, off-pavement use as well as inplant maneuverability. Service and parts for engine and chassis are available at any IH dealer or service center.

Hydraulic lift and tilt system is simple and foolproof. Standard lifting height is 96 in., but lifts of 72, 108 or 120 in. are available on both machines. Tower tilts 4 degrees forward and 10 degrees backward for ease of handling and load stability. Automotive type transmission gives four speeds forward and one reverse, with top road speed being 8 mph. Four cylinder IH engines feature single-plate clutches, replaceable cylinder sleeves and Delco Remy starting and ignition. Engines for both models are engineered to the power requirements of the machines for economy of operation.

Optional equipment includes head and rear lights for night operation, ⅓-cu yd loading bucket for bulk materials handling, 6-ft. snow and bulldozer blade, and 8-ft loading boom. Pneumatic tires are standard on front and rear wheels. Drive wheels have 38-in. diameters including tires. Made by **Piper & Paine**, Dept. N, Nunda, N. Y.

For more details circle NED-82 D4 on enclosed inquiry slip

UNUSUAL BARGAINS

SAVE TIME AND MONEY ON INSPECTIONS!

$225.00 Value
Only $95 Postpaid
Wide, 3-Dimensional Field—Excellent Working Depth

STEREO MICROSCOPE
With Changeable Objectives

Fine, imported Binocular Microscope at a substantial saving. Used for inspections, examinations, counting, checking, etc. Erect image for easy interpretation. You get 2 pairs of eyepieces, 2 pairs of objectives (slide in and out on machined surfaces). Power range from 13X to 75X. Variable inter-ocular distance. Will accommodate standard eyepiece reticles. Rack and pinion variable tension focusing. Hardwood carrying case included. Accessories available. Recommended for lab, shop, factory or home use. We guarantee complete satisfaction or your money back.

Order Stock No. 70,036-AE, $95 ppd
Send Check or Money Order or order on open account.

For Precision Timing in Plant or Lab!
ALARM WRIST WATCH

- 17 JEWEL
- LUMINOUS
- SHOCK-PROOF

Only $49.50 Pstpd.

For timing of production operations, laboratory processes, or "alerting" to appointments. Imported from Germany! 17 jewel precision timepiece with luminous dial for night use. Alarm is set by turning glass rim. Tone may be adjusted to loud or soft. Watch runs 42 hours on one winding—is shock-proof, anti-magnetic. Money-back guarantee.

Order Stock No. 50,030-AE ..... $49.50 Pstpd.
(Send check or M.O., or order on open acct.)

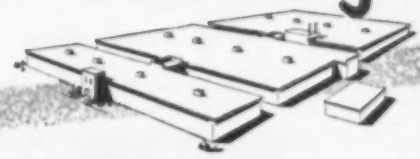
BARGAINS GALORE! GET FREE CATALOG "AE"

If you haven't seen our big, FREE Catalog, you don't know what you're missing. Fantastic variety—never before have so many lenses, prisms, optical instruments, and components been offered from one source. Positively the greatest assembly of bargains in all America. Imported! War surplus! Telescopes! Microscopes! Hand Spectroscopes, Prisms, Lenses, Reticles, Mirrors and dozens of other hard-to-get optical items. Write for FREE CATALOG "AE".

EDMUND SCIENTIFIC CORP., Barrington, N. J.

For more details circle NED-83 D4 on enclosed inquiry slip

Announcing...



A NEW PLANT
A modern building designed specifically for relay manufacture is another step in the continuing effort to improve Struthers-Dunn services and maintain maximum production of high quality products at favorable prices.

A NEW LOCATION
The entire Struthers-Dunn factory and headquarter offices have been moved to a new location, 15 miles Southeast of the Philadelphia-Camden Area.

NEW ADDRESS
LAMB'S ROAD • PITMAN, N. J.
NEW TELEPHONE
PITMAN 3-7500

S-D STRUTHERS DUNN INC.

STRUTHERS-DUNN
5,348 RELAY TYPES

For more details circle NED-84 D4 on enclosed inquiry slip

For Production Line Applications and General Lifting

CM COMET ELECTRIC HOISTS

PUSH BUTTON CONTROL

Capacities: ¼ to 2 tons

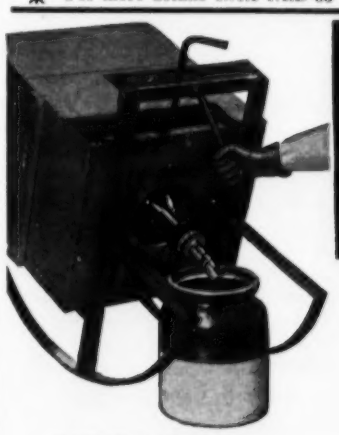
PENDANT ROPE CONTROL

- Plug in on 110 single phase or 220—440 volt power lines. Fast. Safe. Herc-Alloy flexible welded load chain. Lifetime lubrication. COMET hoists save energy . . . reduce materials handling costs. Anyone can operate.

COMET CATALOG No. 150—18 pages of illustrated information sent on request or ask your CM Distributor.

CM HOISTS AND CHAIN
CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONT.

For more details circle NED-85 D4 on enclosed inquiry slip



POUR FASTER
POUR SAFER

SIMPLE . . .
DIRECT . . .
QUICK . . .

CARBOY TILTER
Rugged steel tilter, easily clamped on carboy in upright position provides controlled flow. No spilling, splashing waste or damage.
G-S Type 11 . . $22.00

POURING SPOUT
Acid resistant, vented spout assures smooth flow up to 5 gpm. Fits all carboys.
G-S Spout $4.95

BOTH FOR ONLY $25.00

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ORDER DIRECT TODAY
Shipped promptly from Philadelphia.

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GENERAL SAFETY EQUIPMENT
2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.
SAFETY EQUIPMENT FOR EVERY HAZARD

For more details circle NED-86 D4 on enclosed inquiry slip

D.O.James

Established 1888

Continuous-tooth

HERRINGBONE GEAR SPEED REDUCERS

The Gear With the Backbone

The operating efficiency and dependability of these reducers is continuous testimony to their design and inbuilt qualities of manufacture. They are made in single, double and triple reductions — come in many sizes and in a wide ratio and horsepower range.

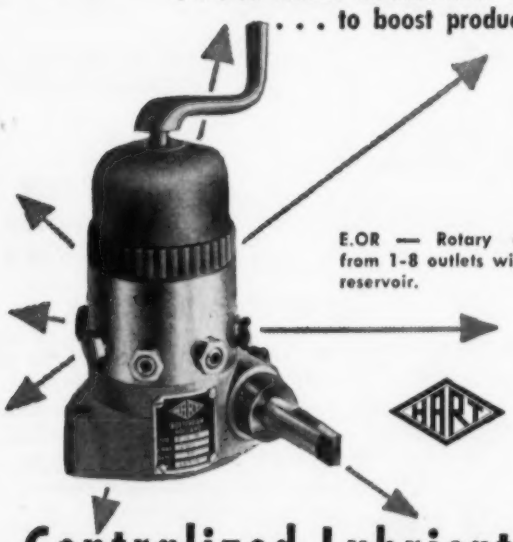
SEND FOR CATALOG 40-C

D. O. JAMES GEAR MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO 7, ILLINOIS

▲ For more details circle NED-87 D4 on enclosed inquiry slip ▲

include this precision "friction-fighting dept."

. . . to reduce maintenance costs!
. . . to boost production!



Centralized Lubrication

. . . STANDS ALONE IN POSITIVE LUBRICATION

Your equipment will work better, last longer and be more productive with *perfected* centralized lubrication. Johnston brings you just that in HART Lubricators, with the precision construction typical of Holland. Instantaneous oiling of from one to 32 points, manually or automatically, with measured accuracy — for new equipment or old. Wide choice of models for all applications.

SAVES TIME

. . . of operator as well as production time on machine. Pays for itself in time saved alone.

SAVES LUBRICANT

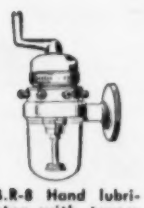
Accurately measured amounts save oil, prevent over-oiling and consequent dirt collection.

SAVES LABOR

Saves extra hours and prevents accidents so prone to occur in oiling equipment in operation.

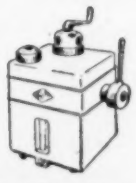
SAVES EQUIPMENT

Every spot that needs oil gets it, regularly, automatically if you prefer, cuts maintenance costs.



CB.R-8 Hand lubricator with transparent reservoir; capacity 0.1 liter from 1-8 outlets.

CA-16 Hand lubricator with reservoir; capacity 1 liter from 1-16 outlets.



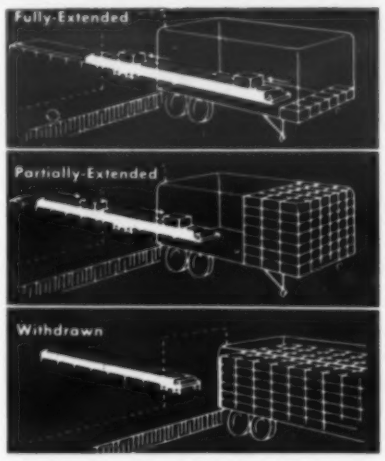
E.RP—Ratchet drive, from 1 to 8 outlets with reservoir; capacity 1.75 liters. 2 or more may be coupled for larger units.

Write today for literature. If desired describe equipment for recommendations.

Johnston EQUIPMENT AND SUPPLY COMPANY
(Regional Distributors Strategically Located)
AFFILIATE OF HERRICK L. JOHNSTON ENTERPRISES
544 WEST POPLAR AVE., COLUMBUS 8, OHIO

▲ For more details circle NED-88 D4 on enclosed inquiry slip ▲

TELESCOPIC BOOM CONVEYOR
boom extends and retracts for loading, unloading truck trailers

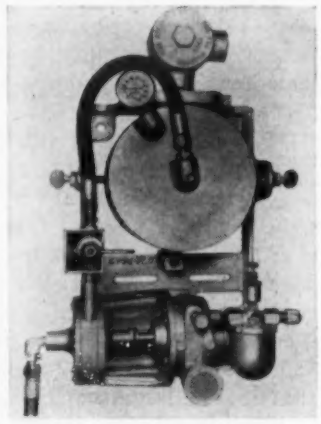


Self-contained power driven boom conveyor mounted in stationary supported track structure comprises this telescopic boom conveyor for loading and unloading truck trailers. Boom is equipped with woven wire belt and extends and retracts by means of motor driven propulsion mechanism located at head end of track frame. Pushbuttons mounted in head end of boom control its position on the track.

Mounted on head end of boom is safety guard bar which stops propulsion mechanism if depressed, protecting operator. Because drive on boom conveyor is reversible, conveyor can be operated in either direction for loading packages into truck, or bringing them in from truck to plant. This equipment is built in varying range of widths and lengths, and supporting frame and tracks can be designed with suitable elevations as required. Made by **Alvey Conveyor Mfg. Co.,** 9259 Olive Street Rd., St. Louis 24, Mo.

▲ For more details circle NED-89 D4 on enclosed inquiry slip ▲

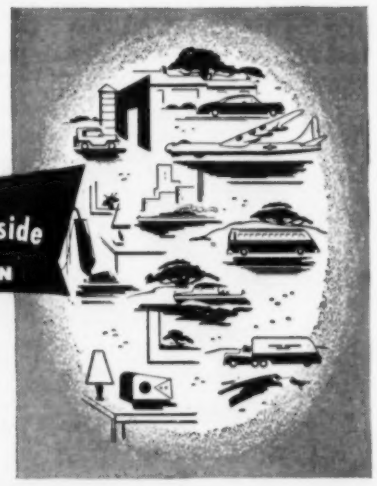
CIRCULATING PAINT HEATER
for pigmented finishes and fillers



Advantages of hot spraying of certain types of finishes can be imparted to the application of pigmented finishes and fillers, regardless of their abrasive content, by the Air Circaflo Pressurematic circulating paint heater. Unit has an integral air motor driven centrifugal pump which circulates the material from the heater to the gun and returns to maintain a constant hot spray temperature for continuous and intermittent service. Fluid pressure at the gun remains constant and is unaffected by air pressure variations and pump speed. Heating unit is a coilless heat exchanger that cannot clog. Model 300-APA is rated at 9 gph and model 600-APA at 18 gph. Made by **Spee-Flo Co.,** Dept. NED, 720 Polk Ave., Houston, Tex.

▲ For more details circle NED-90 D4 on enclosed inquiry slip ▲

CASTINGS on the lighter side by WELLMAN



Chances are no matter what business you're in, there's a WELLMAN aluminum or magnesium casting somewhere in the picture.

For almost half a century, our four complete plants and experienced personnel have been producing castings on the lighter side to meet many requirements.

Let us hear from you, or write for our new catalog No. 53.

Well-Cast MAGNESIUM AND ALUMINUM CASTINGS
Well-Made WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.
Dept. 15, 12800 Shaker Boulevard Cleveland 20, Ohio

▲ For more details circle NED-91 D4 on enclosed inquiry slip ▲

HOMER PERMANENT non-electric MAGNETIC DRUMS and DUCTS for AUTOMATIC REMOVAL of TRAMP METALS

Pat. Pending

HOMER Magnetic Ducts for the removal of tramp iron from Air or Gravity conveyed Grains, Textile and Chemical materials, etc. These units are used with almost any type of processing machinery.

HOMER Magnetic Drums for removal of tramp iron from fine or pulverized dry products, as, Foods, Chemicals, Plastics, Paint Pigments, etc. These units can be used with chutes, hoppers, screw or belt conveying machinery.

Send for detailed information.

The HOMER MANUFACTURING CO., Inc.
Dept. 1-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

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a MATERIAL to suit your requirements

Industrial fastener users have long known they can call on Lamson & Sessions for almost any fastener product.

But did you know that many Lamson products are available in brass, bronze and aluminum alloys, as well as steel?

Yes, Lamson's *complete line* means just that . . even to a choice of materials.

So make it a point to check with Lamson for *all* fasteners in any material.

Lamson & Sessions

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND and KENT, OHIO • BIRMINGHAM • CHICAGO

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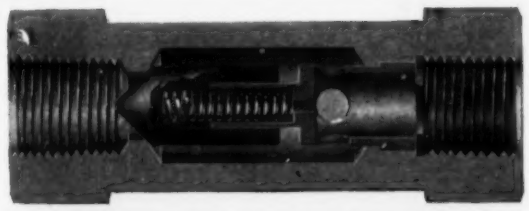


CHECK VALVES

- **ONE PIECE CONSTRUCTION**
  No welds or brazes to crack or fail — Available in ⅜", ½", ¾", 1" NPT line sizes
- **NYLON POPPET**
  Assures leak proof trouble-free service
- **LIGHT WEIGHT**
  Aluminum body and nylon poppet reduce overall weight and increase ease of handling during installation
- **LOW PRESSURE DROP**
  Minimum pressure loss thru valve at rated flow

Write for illustrated circular H

WATERMAN ENGINEERING Company
725 CUSTER AVENUE
EVANSTON, ILLINOIS

▲ For more details circle NED-94 D4 on enclosed inquiry slip ▲

JOHNSON BAND SAWS

SPECIFICATIONS — MODEL J

BOTH WET AND DRY MODELS

Capacity—10" rounds, 18" flats.
Motor—½ H.P. Ball Bearing any voltage available, single or polyphase. (¾ H.P. on wet machine).
Wheel Diameters—16".
Floor Space—66" x 31".
Bed—11" wide, 44" long, 6" deep, 24" high.
Overall Height—(Closed)—39".
Blade Length—11'5" x ¾" x .032". All Standard blades of these specifications can be used.
Weight—Approximately 750 lbs. Crated 800 lbs. Boxed for export 875 lbs.
Speeds—35, 90, 130, 190 feet per minute.
Casters—Optional at slight extra cost.

MODEL B, 5" x 10" CAPACITY, ALSO AVAILABLE

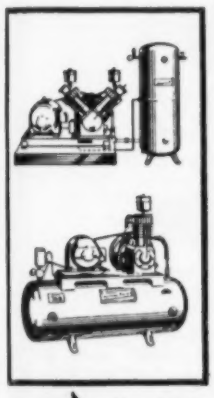
WRITE FOR DETAILS

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

For more details circle **NED-95 D4** on enclosed inquiry slip

MORE FREE AIR PER HORSEPOWER

Kellogg-American



AIR COMPRESSOR PUMPS, ⅓ TO 20 HP
Engineered and precision built to give more *free air* (actual air delivered) per hp, Kellogg-American compressors assure maximum air delivery, efficiency and service life. Single or two stage, 1, 2 or 4-cylinder units available for pressures up to 200 psi; displacements to 105.9 c. f. m.

COMPLETE AIR COMPRESSORS, ⅓ TO 20 HP
Portable or stationary; skid, remote tank or tank mounted; electric motor or gas-engine-driven models permit you to select the most efficient, economical compressor for every job. Write Dept. ND-1 for Bulletin K-307.

FREE — New slip-stick selector to help determine the right Kellogg-American air compressors for your needs. Send for yours on company letterhead today.

KELLOGG DIVISION
ROCHESTER 9, N. Y.

AMERICAN Brake Shoe COMPANY

Kellogg-American

⅓-20 H.P. AIR COMPRESSORS · PAINT SPRAY EQUIPMENT

For more details circle **NED-96 D4** on enclosed inquiry slip

NOW...

FAST, ACCURATE SET-UPS FOR ANGULAR GRINDING

Magna-Lock SINE

WHAT IT IS: An electro-magnetic chuck for making precision angular set-ups on surface grinders. Standard gauge blocks insure maximum accuracy. No dials, no scales. Rugged precision-made hinge is only moving part.

WHAT IT DOES: Single or compound angle set-ups made in minutes. Work held securely . . . powerful magnetic attraction minimizes distortion or warpage during machining operation.

Get full details now. Write Dept. ND-44

MAGNA-LOCK, INCORPORATED
Magna-Lock
Magnetic Chucks and Devices
BIG RAPIDS, MICHIGAN, U. S. A.

For more details circle **NED-97 D4** on enclosed inquiry slip

PARTS MARKING MACHINE

marks round, flat, contoured parts at rates up to 800 parts per hour

Permanent impressions, from single character or trade mark to several lines of lettering 3½ in. long, can be rolled on flat, contoured or round parts up to 6-in. diameter by standard 240 Air-draulic marking machine. Special fixtures are furnished to hold different shaped parts. Combination pneumatic-hydraulic table lift raises part in contact with face of die. As preset die-to-part pressure is exerted, pneumatic sliding carriage rolls die over marking area, producing clean-cut impression.

Installation requires only attachment of 70-100 psi air supply. Marking pressures and operating speeds are adjustable. Marking cycle is actuated by single foot-control valve, leaving hands free to handle parts. Production rates up to 800 1-in. diameter marked parts per hour are possible. Standard models are 52 in. high and occupy 24 x 32 in. floor area. Made by **Jas. H. Matthews & Co.**, 3943 Forbes St., Pittsburgh 13, Pa.

For more details circle **NED-98 D4** on enclosed inquiry slip

SUBMERSIBLE PUMPS

sealed motor units have capacities up to 2950 gph

Capable of operating completely under water, series of submersible pumps has ½, 1, 1½, 2 and 3-hp sizes for wells as deep as 275 ft to the low water level. Capacities range up to 2950 gph. The submersible water system is attached to a single pipe and lowered into the well at a required depth. Multistage centrifugal pump pushes water to the surface through this same pipe. Pumps can be lowered into a casing with a minimum diameter of 4 in. Motors are sealed and filled with a refined high dielectric oil for insulation, lubrication and heat dissipation. Lightweight three-wire electrical cable is used and all electrical controls are installed at the surface. Illustration also shows 1916 model vertical pump. Made by **F. E. Myers & Bro. Co.**, 701 S. Orange St., Ashland, O.

For more details circle **NED-99 D4** on enclosed inquiry slip

NEWLY DESIGNED TRAP

virtually eliminates maintenance!

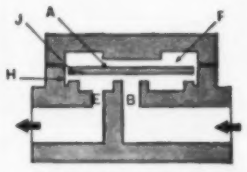
Most striking feature of this trap is its simple design. Only one moving part—a solid stainless steel disc—virtually eliminates maintenance.

The trap is small, easily installed, immune to water hammer, vibration and corrosive elements. Uses same valve seat and head for all pressures to 600 psi and temperatures to 950°F.

Check these advantages to your own satisfaction. Write today for a free trial trap giving size, capacity and pressure conditions.

SARCO COMPANY, INC.
EMPIRE STATE BLDG., N. Y. 1, N. Y.

SARCO
Thermodynamic
TRAP



HOW IT WORKS!

Air and/or condensate raise valve seat disc A, discharge thru E. When steam follows, greater velocity causes it to strike body at H thus building up pressure in chamber F. This causes disc to seat, closing tube B. As pressure in F decreases by condensation and leakage thru slot J, pressure in tube B raises disc and cycle is repeated.

For more details circle **NED-100 D4** on enclosed inquiry slip

Chip Away... PAINT RUST SCALE

with **AURAND CLEANING TOOLS**

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

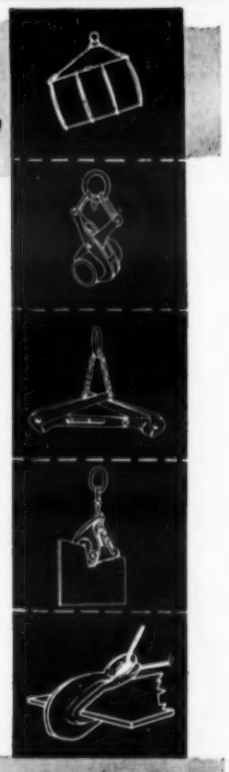
Two sizes in electric or pneumatic models.

For full details, write Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

For more details circle **NED-101 D4** on enclosed inquiry slip

PICK 'EM UP *Faster..Easier*



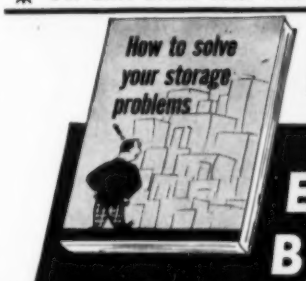
DOWNS SAFETY GRABS ...GRIP ANYTHING!

Yes we said anything—odd shapes, round, oblong, square or even loose objects such as bags or bundles. Best of all you save money on your handling problems while protecting employees.

Downs Safety Grabs are engineered to provide a load safety factor greater than rated capacity plus a Bulldog grip that won't let go until you release the load. There's a Downs hook, grip, tong or sling to fit every handling problem. Write for free illustrated catalog 200 today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

For more details circle **NED-102 D4** on enclosed inquiry slip



IT'S FREE!

new **EQUIPTO BOOKLET**

Helps lick toughest storage problems!

Here's "must" reading for anyone who plans, buys, or uses storage equipment. Shows how you can have custom-arranged facilities, yet pay only the price of standardized units. Learn how to survey, make floor plans and elevations of your own particular requirements. Change arrangement of components anytime. Buy only what you need; expand as you go. Mail coupon today for your free copy.

EQUIPTO — 690 Prairie Avenue, Aurora, Illinois
Please send me copy of new Equipto Booklet entitled "How to Solve Your Storage Problems". I understand that there is no charge or obligation of any kind.

NAME _____
FIRM NAME _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

Equipto
Division of Aurora Equipment Company
690 Prairie Avenue, Aurora, Illinois

For more details circle **NED-103 D4** on enclosed inquiry slip

Standard equipment — special models — or complete materials handling systems, Fibre Specialty Division are specialists in product handling for all industry.

Write for new catalog No. 54 —free on request—to Dept. N-4.

FIBRE SPECIALTY DIVISION
NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

For more details circle NED-104 D4 on enclosed inquiry slip

LIGHT-DUTY FORK TRUCKS

Hydratork drive transmission eliminates gear shift, clutch

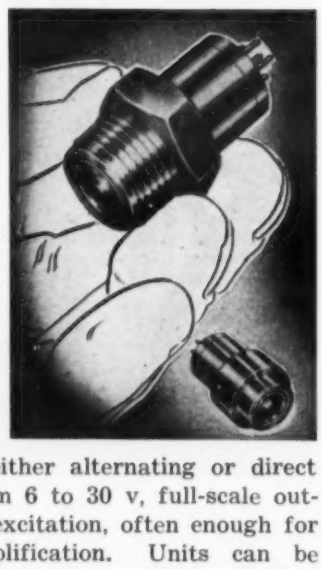
Gasoline - powered Clark Carloader model fork trucks in 3000-5000 lb capacities are now optionally available with Hydratork Drive transmission which eliminates need for gear shift, high and low gears and clutch and clutch pedal. Drive combines torque convertor with simple constant-mesh transmission, making it possible to operate fork truck with only an accelerator, brake pedal and forward-reverse selector lever on steering column.

Chief advantage of the Hydratork is that it eliminates gear clashing during engagement which minimizes maintenance requirements. Additional advantages include smooth acceleration, positive drive control at all times, reduced driver fatigue and controlled "inching" ability. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-106 D4 on enclosed inquiry slip

PRESSURE PICKUPS

pressure ranges from 0 to 3000 psi



High performance pressure pickups are available in a variety of diaphragm diameters for measuring pressure ranges as low as 0 to 1 psi and as high as 0 to 3000 psi. They take measurements of either gage or absolute pressure accurate to 1 per cent of full scale. Miniature units can be used in temperatures from −65 to 350° F and have stainless steel cases. With either alternating or direct current excitation of from 6 to 30 v, full-scale output is 3 mv per volt of excitation, often enough for direct use without amplification. Units can be mounted with diaphragms flush to surface of flow and can be closely spaced for pressure differential measurement. They are for use with oscilloscopes, oscillographs, galvanometers and similar instruments. Made by **Dynamic Instrument Co.**, Dept. NED, 28 Carleton St., Cambridge 42, Mass.

For more details circle NED-107 D4 on enclosed inquiry slip

Super Sweeper Snaps Up Nails, Tacks and Scrap

From Factory Floors, Lots, etc.

New lightweight **PERMANENT MAGNET** *receives enthusiastic reception for maintenance help.*

Increasing problem to maintenance executives caused by dangerous tramp iron is solved by the Eriez Super Sweeper. Harmful, and often expensive, staples, nails and pieces of scrap iron are quickly snapped up by Super Sweeper's powerful ALNICO action.

Super Sweeper is light and easy to handle . . . sweeps large areas with maximum efficiency. Use it indoors or outdoors. It is a self-contained unit. No electric current. Your first cost is your last cost!

Thanks to Super Sweeper's design it can be PULLED by a jeep, truck, etc. . . . or PUSHED by a man . . . or SUSPENDED from a lift truck. The tubular steel handle can be removed. Wheels, fitted with puncture-proof 8.00" x 2" tires, are also removable.

Three strengths and four magnet widths (24", 36", 48" and 60") make certain that there is a Super Sweeper to fit your exact requirement. Write for Bulletin on this versatile trouble-saver.

ERIEZ
MANUFACTURING COMPANY
80D Magnet Drive, Erie, Pa.

ERIEZ

For more details circle NED-109 D4 on enclosed inquiry slip

NOELTING **Faultless** ALL-STEEL **TRUCK LOCK** WITH **2 PUSH-PEDALS FOR SAFETY!**

No more scuffed shoes from rough cast edges. No more soles torn away from shoe tops. Toe presses down on the Faultless Truck Lock —toe *does not lift*. Both foot pedals have non-slip treads for complete safety in operation.

Write for literature and specifications

FAULTLESS CASTER CORPORATION
Dept. NE, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

For more details circle NED-110 D4 on enclosed inquiry slip

ideas...worth

hundreds of dollars

for the price of a 3¢ stamp

Here is a collection of interesting case histories of production and maintenance problems which were solved with almost unbelievable ease and speed by the unusual use of a hose clamp to fasten things together and "Hold 'em tight" in place. Send for Clampways Ideas" while you're thinking about it.*

"The Sign of a Good Hose Clamp"

PUNCH-LOK *Company*

*...or get your copy from your near-by Punch-Lok Distributor.

do it now

Punch-Lok Company
Dept. A, 321 North Justine Street
Chicago 7, Illinois

send me Clampways ideas FREE

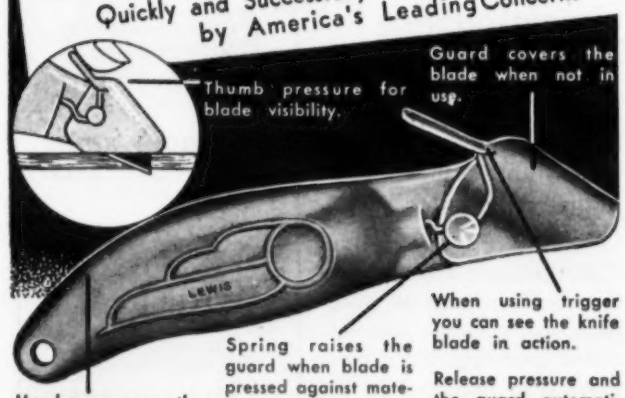
Firm Name_____
My Name_____ Title_____
Address_____
City_____ State_____

4962

For more details circle NED-105 D4 on enclosed inquiry slip

NEW! LEWIS AUTOMATIC TRIGGER ACTION SAFETY KNIFE

Quickly and Successfully Adopted for Use by America's Leading Concerns



Spring raises the guard when blade is pressed against material to be cut.

When using trigger you can see the knife blade in action.

Release pressure and the guard automatically covers the blade.

Hand pressure on the cutter controls penetration of the blade.

No other cutting tool like it. Eliminates the hazards of exposed cutting blades. You must operate it to appreciate its swift and sharp cutting . . . always automatically ready for use. Trigger action gives full blade visibility with safety.

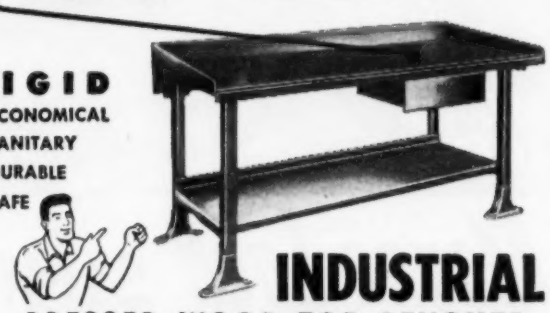
Retail Price $1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

For more details circle NED-108 D4 on enclosed inquiry slip

TOPS that *PROTECT* work

RIGID
- ECONOMICAL
- SANITARY
- DURABLE
- SAFE



INDUSTRIAL

PRESSED WOOD TOP BENCHES

. . . built to take lots of abuse—yet provide the semi-soft top surface so necessary to prevent work from getting damaged, whether it be light or heavy work.

TOP is ⅛" MASONITE, cemented to heavy gauge steel by special adhesive which: (a) has a high resistance to dead load. (b) is resistant to weathering or aging. (c) will not deteriorate. (d) is resilient, water and acid resistant.

LEGS are connected to Top, by carriage bolts through battens; arc welded. No Rivets. Benches will withstand excessive weights—Need no end or wall support.

Choice of 30 standard sizes or made to order.

Buy INDUSTRIAL—a bench that is strong to begin with.

IMMEDIATE DELIVERY—DISTRIBUTOR TERRITORIES OPEN. Write for the new shop equipment Catalog #653

Industrial Bench & Equipment Mfg. Co., Inc.
91 South Street — New Britain, Conn.

Benches—Steel, Maple top, Welding—Machine Stands, Work Stands, Bench Legs, Tote Boxes

For more details circle NED-111 D4 on enclosed inquiry slip

IS YOUR WASHROOM MODERN AND SANITARY LIKE THIS?

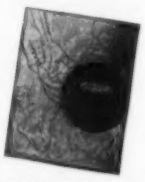
● Modern, sanitary Bradley Washfountains improve industrial relations and provide exceptional economies as well. They cut water consumption, maintenance and reduce piping connections by 80%.

Bradleys serve 8-10 persons simultaneously. Foot-control eliminates contagious washbasin contacts. Self-flushing bowl prevents collection of dirty water. Automatic water cut-off prevents water waste. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wis.

BRADLEY washfountains

Distributed Through Plumbing Wholesalers

Illustrated 24-page Catalog 5204 gives full information. Write for your copy now.



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YOU'LL GET years and years of 100% ACCURATE performance...

THOUSANDS OF REDINGTON COUNTERS, many put into service 20, 30, and 40 years ago, are still in continuous use...*and still functioning perfectly!*

REDINGTONS are widely used on
• PUNCH PRESSES • SHEETERS • DRILL PRESSES • CONVEYOR LINES • PACKAGING MACHINES BENCH OPERATIONS
and wherever a positive stroke Counter can be used. Sturdy, reliable REDINGTONS have been standard equipment for years on such well-known printing presses as *C&P, Kluge, Kelly, Banthin, Miehle, etc.*

EQUIP ALL YOUR MACHINES NOW WITH THE UNIT YOU CAN COUNT ON!

Send today for this free illustrated catalog NED, showing all models, applications, prices and quantity discounts.

CHECK THESE LONG-LIFE, HIGH-EFFICIENCY FEATURES: 1) Easy-to-read white on black numerals integral with double-injected plastic wheels—can't wear off! 2) Handsome wear-resistant black crackle finish, 3) Handy reset knob, 4) All-purpose mounting bracket, 5) ALL WORKING PARTS OF STEEL.
Every REDINGTON is fully guaranteed!

F.B. REDINGTON CO. 101 S. SANGAMON ST., CHICAGO 7, ILL.

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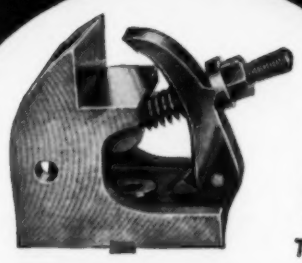
CUT SET-UP COSTS HUNDREDS OF WAYS WITH



HART MILLING FIXTURES

"Masters of A Thousand Set-ups"

Eliminate the need for many special expensive jigs and fixtures.

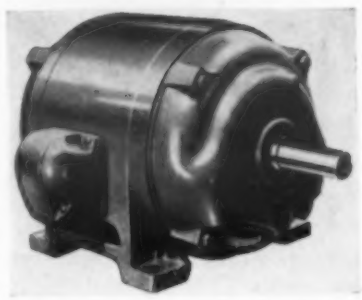
You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.

Write for illustrated folder

WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.

▲ For more details circle NED-114 D4 on enclosed inquiry slip ▲

DRIPPROOF MOTOR
frame sizes 182-184 available

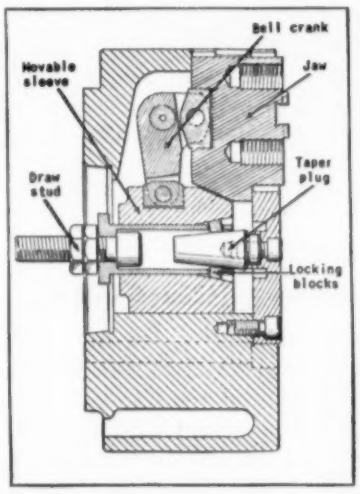


A dripproof design is featured by compact Uniclosed type H motor available with solid, one-piece cast iron frame in 182-184 sizes. End brackets have air intakes arranged to prevent entrance of water, yet allow liberal air flow into motor for two-way ventilation. Slot design of laminations has been improved, and asbestos-protected windings are reinforced by addition of Mylar laminations. Split dome terminal box makes leads accessible. Lubriflush lubrication of bearings allows replacing grease without disassembling motor or disturbing bearings. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

▲ For more details circle NED-115 D4 on enclosed inquiry slip ▲

MACHINE CHUCK
has positive-lock safety feature

Machine chuck design provides a safety locking feature so that chuck will not open until positively actuated by operator. Body of chuck is slotted to accommodate radial action jaws, which are moved by means of bell cranks. Sleeve is moved by a draw stud acting through a series of locking blocks, which engage an internal taper on the sleeve and lock by wedging action on a mating taper of a plug placed inside the sleeve. Tapers are calculated to produce a constant bearing with the blocks for the entire movement of the actuating mechanism. Centrifugal force as chuck revolves causes locking blocks to rock and exert a maximum locking force. Made by **Logansport Machine Co.**, 808 Center Ave., Logansport, Ind.



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Maintenance Control System

McCaskey Register Co.—The various records necessary for control of a maintenance department are combined in one easy-to-handle system described in 6-page illustrated folder A-699. "Packaged" system is simple to follow, and reduces necessary paper work. Complete details are given.

▲ For more details circle NED-117 D4 on enclosed inquiry slip ▲

step up production with

STOW flexible shaft MACHINES

These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

WRITE TODAY for your free copy of CATALOG 51

STOW MANUFACTURING CO. 26 Shear St. Binghamton, N. Y.

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5411

"ONE MAN GANG"

When you see PORTELVATOR (R) (the handy Hamilton portable elevating table) doing the lifting and moving jobs which previously required the combined strength of three or more husky men you will know why so many present users call it a "one man gang."

(Prices start at $155.00*) Get one—and start it to work in your operation.

WANT THE COMPLETE FACTS? Write for Bulletin No. 5411—Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

*Prices subject to change without notice.

▲ For more details circle NED-119 D4 on enclosed inquiry slip ▲

INVESTIGATE Sta-Warm

COMPOUND _ RESIN _ SOFT METAL

MELTING and DISPENSING EQUIPMENT

The fast, economical way to handle Heated Compounds is the Sta-Warm way... with melters that are tailored to your job.

You'll find helpful application data from Sta-Warm's 30 years of experience supplements their recommendations to you. This broad experience is always available when you inquire about compound or resin or soft-metal melting or dispensing problems.

INVESTIGATE STA-WARM TODAY outlining your current problem.

SOME OF THE ACCESSORIES
VARIABLE OR FIXED THERMOSTAT OR THREE HEAT SWITCH
LONG LEGS, SHORT LEGS, OR NONE
LOOSE COVERS OR HINGED LIDS
HAND OR MOTOR DRIVEN AGITATORS
GATE VALVES OR NEEDLE VALVES
. . . PLUS MANY OTHER FEATURES TO SPEED PRODUCTION FOR YOU

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

▲ For more details circle NED-120 D4 on enclosed inquiry slip ▲

NEW! Greater Capacity! Smaller Size! Longer Life!

A revolutionary development in industrial gearing! Foote Bros. applies its aircraft quality gear manufacturing experience to its industrial gear production...to give you greater capacity and longer life in less space!

Want to learn how these better gears will work in your product? Write today for complete details!

FOOTE BROS. GEAR AND MACHINE CORPORATION
4545 S. Western Boulevard, Dept. NE, Chicago 9, Illinois

FOOTE BROS.
Better Power Transmission Through Better Gears

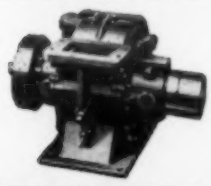
For more details circle NED-123 D4 on enclosed inquiry slip

STURTEVANT Laboratory Equipment...

assures accurate samples... cuts laboratory sampling costs

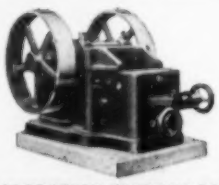
Sturtevant laboratory equipment have all the features of full-sized production machines with extra accuracy and wider range of adjustment built-in. They are fast... provide true samples of every batch processed.

Investigate Sturtevant equipment for your laboratories. They will help you cut sampling costs... improve product quality... increase sales. Write for catalog, today.



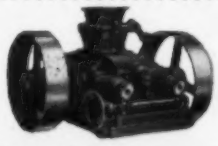
LABORATORY SWING-SLEDGE MILLS

Capable of reducing soft, moderately hard and tough or fibrous materials to any degree of fineness between 1 in. and 20 mesh. The patented "Open-Door" feature permits ready accessibility for cleaning.



LABORATORY CRUSHING ROLLS

First designed especially for laboratory sampling work, Sturtevant Crushing Rolls are used regularly in many plants where there are limited out-puts. Range of output for the 8 x 5 size is from ½ in. to 20 mesh — and for the 12 x 12 size from ¾ in. to 20 mesh.



LABORATORY JAW CRUSHERS

Special Roll Jaw action simplifies close regulation of the product with capacities varying from 300 to 400 lbs. per hour at finest settings, to 1000 or 2000 lbs. when opened for coarser work. Each part of the crusher is accessible for quick and easy cleaning.

LABORATORY SAMPLE GRINDER

Laboratory Sample Grinders are of the "Open-Door" disc type and are capable of very fine work, producing products as fine as 100 mesh (coarser if desired) when working on dry, friable, soft or moderately hard materials. Simply turn hand wheel to provide product regulation from 10 to 100 mesh.

Sturtevant Mill Company, 114 Clayton St., Boston 22, Mass.

For more details circle NED-124 D4 on enclosed inquiry slip

COST-CUTTING "STREAMLINER" CONVEYOR SYSTEMS

Set up for continuous production! To eliminate needless manhandling, to speed the flow of materials from one department to another . . metal stampings are moved from punch presses to assembly operation on a "Streamliner" Horizontal Belt Conveyor. Because it's engineered to customer's plant and product, this production-increasing "Streamliner" saves time, money and effort—helps to move materials safely, too! Write for our 24-Page "idea-stimulating" catalog. It shows examples of "Streamliner" Conveyors in action!

HARRY J. FERGUSON COMPANY

133 WEST AVENUE, JENKINTOWN, PENNA.

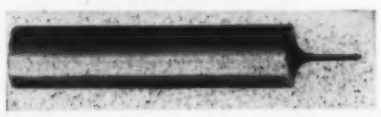
For more details circle NED-125 D4 on enclosed inquiry slip

SMALL GRINDING TOOL has speed of 100,000 rpm

With its speed of 100,000 rpm this 5-oz Nu-Jett grinder can etch, grind, polish and deburr. It measures 4¼ x ⅞ in. and features safety guard which fully protects chuck nut, minimizing finger burns and giving accurate control of burr or wheel. Grinder is now being marketed with new individual filter and automatic lubricator, which add to unit's life. Grinder is being used in machine and die making shops, in plastic and molded rubber plants, glass plants, woodworking shops and by jewelers and pattern makers. Made by **Nu-Jett Products Co.**, Dept. N-7, 1355 Michigan Ave. N.E., Grand Rapids, Mich.

For more details circle NED-126 D4 on enclosed inquiry slip

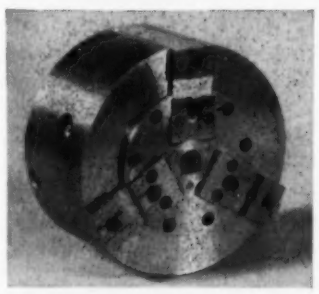
BORING TOOLS short neck assures rigidity



Neck length of 500 series boring tools is only slightly longer than boring depth, achieving maximum rigidity for boring precision holes on screw machines and production boring machines. The 25 sizes in each of the two styles, A for through boring and B for bottoming, embrace necks of various lengths to meet wide range of applications. Tools are offered in both high speed steel and carbide-tipped makes by **Bokum Tool Co.**, 14775 Wildemere Ave., Detroit 38, Mich.

For more details circle NED-127 D4 on enclosed inquiry slip

AIR CHUCK maintains precision within 0.001-in.



Jaws of the 12-in. Ajust-Tru air chuck can be machined on tool room equipment, rather than automatic or regular screw machines. Final precision adjustment is made by the Ajust-Tru-principle of the wedge type actuated chuck, the same features that allow it to maintain precision within 0.001-in. Hardened top jaws can be used for long wear without need for grinding or regrinding when chucking or rechucking a job. True adjustment can be under full line pressure. Chuck can be used on present equipment, but supply air cylinders can be obtained on order. Made by **Buck Tool Co.**, 322 Schippers Lane, Kalamazoo 62, Mich.

For more details circle NED-128 D4 on enclosed inquiry slip

You don't have to be a Monkey—

. . . to loosen frozen bolts on utility poles. The new Aerosol Kroil, which can be squirted with one finger, loosens the most stubborn frozen metal parts...FAST. More than 12,000 shops depend on Kroil whenever frozen metal parts threaten to tie up production or waste manhours. In this new package it is the finest rust-busting tool ever...shoots a stream 3 ft. yet won't leak. One customer said, "before trying Kroil we broke off every nut (on our heat treat trolleys), since then we have not lost one and have decreased the repairing time from 30 minutes to about 6 minutes per trolley."

KANO KROIL LOOSENS FROZEN METAL PARTS

Use Kroil on all dismantling jobs; for filing, sawing, honing; . . . also keeps air driven tools running freely.

Just try Kroil on a make good basis. Case of 12 Aerosol Kroil 12 ounce cans $21.60 f.o.b. factory or send $2.35 for one can postpaid. If it doesn't perform to suit you, return the empty can for refund.

KANO LABORATORIES 1074 THOMPSON LANE NASHVILLE 11, TENNESSEE

For more details circle NED-129 D4 on enclosed inquiry slip

ARMSTRONG SET-UP and HOLD-DOWN TOOLS

ARMSTRONG Set-up and Hold-down Tools reduce setting-up time—keep men and machines producing. Designed for use on planers, drill presses, milling machines, etc., they hold work securely and rigidly, and thereby reduce spoilage and prevent costly accidents.

Your local Armstrong Distributor carries ARMSTRONG Set-up and Hold-down tools in stock in sizes for every operation. Stop haphazard setting-up methods. Provide each of your machines with a full complement of ARMSTRONG Set-up and Hold-down Tools.

Write for circular

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVE. • CHICAGO 30, U.S.A.

See us at Booth 232, ASTE Show, Philadelphia

For more details circle NED-130 D4 on enclosed inquiry slip

accurately controlled electric heat

HEATING LIQUIDS MELTING SOLIDS *in Tanks and Vessels*

WATLOW IMMERSION HEATERS

The most efficient method of heating fluids in tanks, kettles, steam tables, boilers, etc. Watlow Units are designed for low internal operating temperatures —which results in maximum life. Available in brass, steel or nickel alloy, also stainless steel sheaths, for maximum corrosion resistance. Standard sizes: ¾" to 2" dia.; 3½" to 60" lengths; 10W-35W densities. Special sizes and shapes built to your specifications.

Send for your free copy of *Watlow Electric Heating Units Catalog.*

WATLOW ELECTRIC MFG. CO.
Since 1922—Designers and Manufacturers of Electric Heating Units
1374 FERGUSON AVE.
SAINT LOUIS 14, MO.

For more details circle NED-131 D4 on enclosed inquiry slip

"Trailer-Loading Time Cut in Half... WITH OUR MAGCOA PORTABLE YARD RAMP"

—Reports Frank Gray, Traffic Manager, Universal-Cyclops Steel Corp., Bridgeville, Pa.

"We now load 400,000 lbs. of steel products in an 8-hour shift; have released two men for other duties—direct benefits of our MAGCOA Yard Ramp," says Mr. Gray.

Here's what you'll find when you look into the revolutionary new MAGCOA Portable Magnesium Yard Ramp that permits truck-loading and car-loading from ground level—

- One man moves it. Hydraulic lift helps position it.
- You get fuller use of present facilities, lift trucks and operators.
- Exclusive MAGCOA quarter-round safety curbs and rounded end-castings protect workers, lift trucks and loads.
- Capacities to 16,000 lbs. in five standard sizes.
- Bridge-type construction of rugged magnesium—by magnesium fabricating specialists.
- Low cost—less than conventional stationary docks in most of U. S.
- Prompt delivery from mass-production factory.
- Enthusiastic users from Coast to Coast.

Look into all the facts! Send for MAGCOA Yard Ramp literature. At the same time, look into how MAGCOA lightweight, heavy-duty Magnesium Dockboards can speed your dock-level loading. *Write today.*

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.

For more details circle NED-132 D4 on enclosed inquiry slip

New Porter-Cable PORTABLE Band Saw

Slices through 1½" cold rolled steel in 40 seconds! You can take this 16-pound work-demon anywhere . . . equipment yards, stock bins . . . tight spots where costly hand sawing is the only other answer!

Powered for heavy duty, perfectly balanced. *Band speed:* 240 feet per minute. *Capacity:* 3¼" diameter round stock, 3¼" x 4¼" rectangular. *Bearings:* top grade precision ball and needle. Tough aluminum alloy frame. *Motor:* Universal 115 V. AC-DC, 25-60 cycle (230 V also available).

- 10 to 15 Times Faster than Hand Sawing!
- Cuts Ferrous and Non-Ferrous Metals and "Problem" Materials
- Use It in Any Position with Ease and Safety!

WRITE TODAY for full information on Porta-Band Portable Band Saw

PORTER-CABLE MACHINE CO.,
2404 N. Salina St.,
Syracuse 8, N. Y.

Porter-Cable
Quality Electric Tools

Manufacturers of SPEEDMATIC and GUILD Electric Tools

▲ For more details circle **NED-133 D4** on enclosed inquiry slip ▲

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From final drawings to plenty of prints, for production or record...is only a matter of minutes when you have an Ozalid® machine on the premises.

Ozalid reproduction is chemical, instantaneous, without delays between exposure, developing, drying. No intricate adjustments, messy developing solutions, drying equipment, or skilled operators are necessary. Anybody can use an Ozalid.

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AND the same machine will make duplicates of correspondence, specifications, reports, forms, orders, invoices. You save time, and your prints cost less when you have an Ozalid.

The Ozalid process, machines, and papers are uniform, consistent, dependable. Ozalid service is never far away.

To find out what Ozalid can do for you, call the Ozalid office or distributor listed in your phone book. Or write for full information—to 130 Corliss Road, Johnson City, New York.

Ozalid Printmaster
—copies material up to 54 inches wide, at speeds to 30 feet per minute; has low maintenance; is easy to operate; saves time, trouble, and costs!

OZALID

A Division of General Aniline & Film Corporation
. . . From Research to Reality
In Canada, Hughes Owens Company, Ltd., Montreal

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HEAT PUMP
packaged unit heats and cools

Designed to provide clean flameless heat in winter and cool air-conditioned comfort in summer, Flow - Temp heat pump is a compact packaged unit that is suited to use in all climates and any type of installation. It derives its heat from piping laid in ground surrounding the building it is serving or from any underground water source. Units are available for either heating or combined heating and cooling. Twelve models provide a heating capacity output ranging from 26,000 to 252,000 Btu/hr and cooling capacity ranging from 25,450 to 179,000 Btu/hr with a water input heat source ranging from 50 to 70° F. High efficiency is offered by units, which utilize electricity to operate the pumping system. Made by **Acme Industries, Inc.,** 450 Mechanic St., Jackson, Mich.

▲ For more details circle **NED-135 D4** on enclosed inquiry slip ▲

ROLLER SKIDS
have swivel plate load support

Changes in direction of Multiton roller skids for moving heavy loads can be made without disturbing the load with swivel plate attachment incorporated on skids themselves. Attachment consists of circular turntable which, although fastened to skid frame, revolves around central pivot. Hardened teeth on turntable assure firm contact with wooden base of load. When a turn is necessary, T-shaped connector is attached to cross bar at either end of skid and a pipe is slipped over its shaft. Leverage can then be applied to turn skid, while turntable, integral with load, remains in original position. Ninety-degree turns can be accomplished. Made by **Stokvis Edera & Co.,** Dept. NE, 95 Madison Ave., New York 16, N. Y.

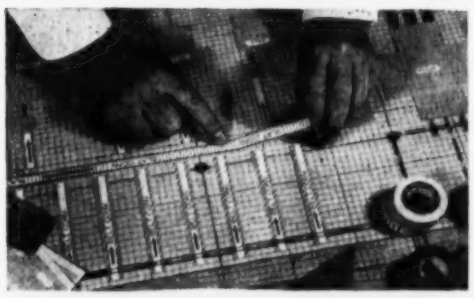
▲ For more details circle **NED-136 D4** on enclosed inquiry slip ▲

Motor Starters & Pushbuttons

General Electric Co.—Buying information on alternating current magnetic motor starters rated 1/6 to 50 hp, combination starters of ½ to 25 hp, pushbutton stations, alternating current manual motor starters and magnetic reversing controllers is found in 6-page illustrated bulletin GEA-6061. Circuit diagrams, prices, ratings and application data are included.

▲ For more details circle **NED-137 D4** on enclosed inquiry slip ▲

CUT DRAWING BOARD TIME ON PLANT LAYOUTS



The CHART-PAK Method utilizes pre-printed tapes for standard plant appurtenances, plasticized cross-section paper for making templates for special equipment, and ruled plastic layout sheets. The tapes and template paper are self-adhering and instantly mountable.

The proven advantages of CHART-PAK include:

- **SPEED**—pre-printed patterns are ready to be applied. Changes can be made in seconds.
- **UNIFORMITY**—Each pattern is always the same.
- **WIDE RANGE**—Patterns include many types of material conveyors, structural components, center lines, arrows, etc.
- **ECONOMY**—saves expensive drafting time.

CHART-PAK also provides prefabricated materials for making organization charts, curve line and columnar charts, and office layouts.

Write for free descriptive bulletins.

ATTACH TO YOUR LETTERHEAD
Please send me full information about the CHART-PAK Method for:
☐ Plant Layouts ☐ Organization Charts
☐ Office Layouts ☐ Graphic Charts 94-D

CHART-PAK, INC. 94D LINCOLN AVE., STAMFORD, CONN.

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5413

PRECISION
SMALL HOLE DRILLING
Should always be done on the
HAMILTON
VARIMATIC®

STURDY
BENCH TYPE
VARIABLE SPEED
SUPER SENSITIVE
PRECISE

For complete information write for our FREE Bulletin No. 5413. Address
The Hamilton Tool Company,
901 Hanover Street, Hamilton, Ohio.

IT'S A *Hamilton Tool*
USE IT WITH CONFIDENCE

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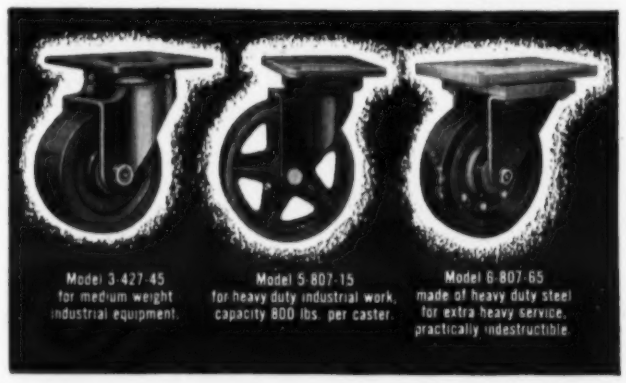
FAST... EFFICIENT
materials-handling
with Colson® casters

There's a COLSON Caster designed to meet every industrial materials-handling requirement—*exactly.* Old, bumpy hard-to-handle equipment can be restored to its original efficiency quickly and economically with COLSON Casters. Other COLSON materials-handling equipment includes hand trucks, barrel and drum trucks, platform trucks and lift-jack systems. Write us or consult the yellow pages (under "Casters" or "Trucks, industrial") for the COLSON office near you.



Write for new catalog "COLSON Trucks and Casters"

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS · LIFT-JACK SYSTEMS · INDUSTRIAL TRUCKS

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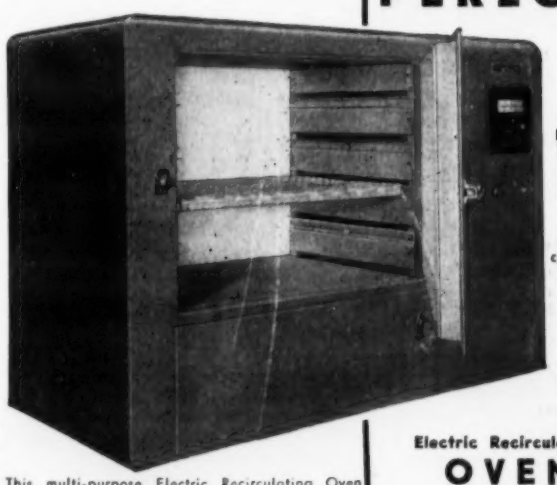
PERECO



Model DRF-30 (Illust) Also available in two compartment Model 260

Electric Recirculating
OVEN

This multi-purpose Electric Recirculating Oven is typical of Pereco's line of standard or special Furnaces in temperatures from 450° to 5000° F.

Specifications Model DRF-30

Chamber Size: 30" wide x 24" deep x 24" high.
Operating Temperature: 0-550° F.
Recirculation: Built-in 4-blade fan with air volume regulator, and adjustable louvres immediately below each shelf bracket.
Controls: Temperature Indicator and controller, Thermocouple, on - off Power Control Switch and Safety Pilot Light.
Safety Feature: Wired so the heaters cannot be turned on unless the blower is also operating.
Heating Elements: Fin-strip heater bank.

Write us about your furnace needs
PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio

PERENY EQUIPMENT COLUMBUS OHIO

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UNITABLE®
BELT CONVEYOR

For Assembly - Inspection - Packaging

The most ADAPTABLE portable conveyor you can find. Exclusive "unitized" design 10' to 80' lengths. Write for UNITABLE Bulletin now.

CONVEYOR SPECIALTY COMPANY INC.
37 Newport Avenue
North Quincy 71, Mass.

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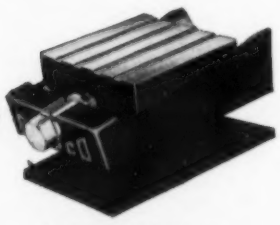
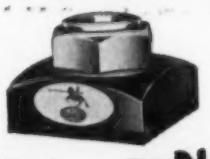
Improved Empco JACKS are stronger!

SAVE TIME SETTING UP AND LEVELING YOUR MACHINES WITH FAST, ACCURATE, SELF-ALIGNING LEVELERS!



Style JD Wedge type



Style JS Screw type

You can meet hurry up demands for relocation of machinery quickly and easily with improved EMPCO JACKS. You just raise the machine enough to slip EMPCO JACKS under the base (the number depending on the size of the machine). Turn the adjusting screw up or down until the level indicator reads "zero," and the job's done.

To reduce vibration, VI-SORB mounting pads are available with each style EMPCO JACK. Write for specifications and prices today.

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THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

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cut costs · clean efficiently

cold steam

✓no back splash
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HYDRO-AIR PRESSURE WASHER $9.95

Connects to regular air and hot or cold water supply. Precise control of air and water blasts heavy dirt and grease or rinses sheets and small parts with a penetrating spray.

widely used in these industries:
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Order through your regular supplier of cleaning compounds, or direct.

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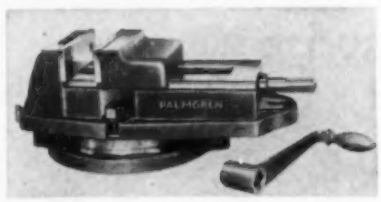
MOTOR SPEED CONTROLS
five models rated 1/15 to 1½ hp

Using same principle as former models to permit operating direct current motors from alternating current lines, Variac motor speed controls are now available in five models with power ratings ranging from 1/15 to 1½ hp. Separate selenium rectifiers supply field and armature power, and armature voltage can be varied smoothly and with good regulation. Result is virtual elimination of torque pulsation, capability to start motors slowly and smoothly, reduction of motor heating, absence of warm-up time and reduced maintenance. Reversing of motor is obtainable in all sizes and dynamic braking in all but the smallest size. Made by **General Radio Co.**, Massachusetts Ave. & Front St., Cambridge 39, Mass.

▲ For more details circle NED-145 D4 on enclosed inquiry slip ▲

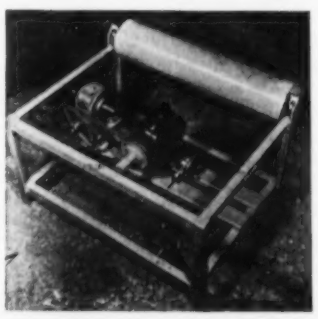
MILLING MACHINE VISE
heavy-duty unit has swivel base



Designed for use in heavy-duty machining operations, No. 60B flanged milling machine vise has removable 360-degree swivel base. Vise is provided with flanges for clamping to machine table with or without swivel base. Jaws are 6-in. wide, open 6 in., and are 2-in. deep. Removable ground steel jaw plates are standard, and thread adjusting screw has a replaceable screw bushing. Made by **Chicago Tool & Engineering Co.**, 8378 S. Chicago Ave., Chicago 17, Ill.

▲ For more details circle NED-146 D4 on enclosed inquiry slip ▲

POWER PACKAGES
makes gravity conveyors "live"



Designed to facilitate conversion of gravity roller conveyors to powered belt or live roller units, Add-A-Drive power packages are available to fit belt widths of 8, 10, 12, 16, 24 and 30 in. Completely self-contained, they are powered by ⅓, ½ or ¾-hp motors suitable for 110-v single phase or 220/440-v three-phase current. Special current models can also be supplied on request. Made by **Sage Equipment Co.**, 28 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-147 D4 on enclosed inquiry slip ▲

MODERN air fluid POWER

ASTE SHOW
APRIL 26-29
CONVENTION HALL, PHILADELPHIA
SEE MODERNAIR BOOTH NO. 832

SPECIAL DISPLAY NEWLY DESIGNED

Subplate Mounted Valves, Completely New Co-axial Type Air Hydraulic Cylinders, Air Return Type Single Acting Cylinders And Package Units Containing Safety Circuit And Control For Punch Presses

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STOCKS IN PRINCIPAL CITIES

CYLINDERS
CONTROL VALVES
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All components required for complete automatic and sequence circuits:

Engineering of control circuits

SERVICE ENGINEERING SALES

Modernair CORPORATION
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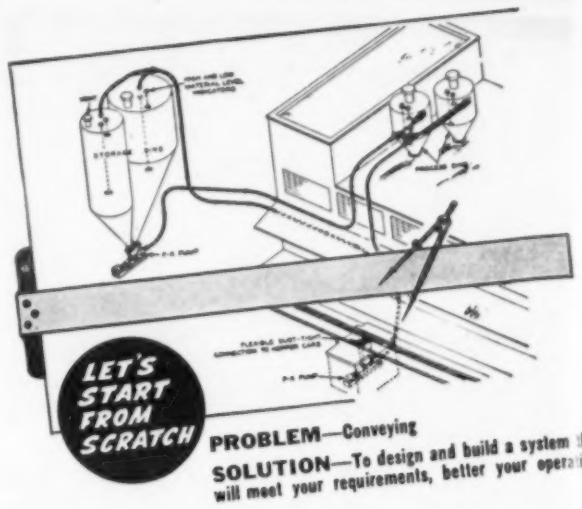

LET'S START FROM SCRATCH

PROBLEM—Conveying
SOLUTION—To design and build a system that will meet your requirements, better your operation

Fuller Company designs and manufactures four primary types of pneumatic conveying systems for dry pulverized and granular materials. This permits the selection of the system best adapted to specific requirements—best equipped to handle most efficiently the materials being conveyed.

Each job is considered separately. That's why we say "Let's start from scratch" . . . when the plant is in the design stage. Then a preliminary study of local conditions can be made—and the proper equipment and layout recommended by specialists in the field of pneumatic conveying. We strongly urge all prospective purchasers to avoid preliminary engineering and to permit us to submit a recommendation or engineering study.

Fuller has a tangible resource in a personnel with many years of experience in all phases of pneumatic conveying. Fuller engineers are at your service to make a study of your requirements and to make a recommendation. There is no obligation, of course.

G67A

Fuller

FULLER COMPANY, Catasauqua, Pa.
120 S. La Salle St., Chicago 3
420 Chancery Building, San Francisco 4

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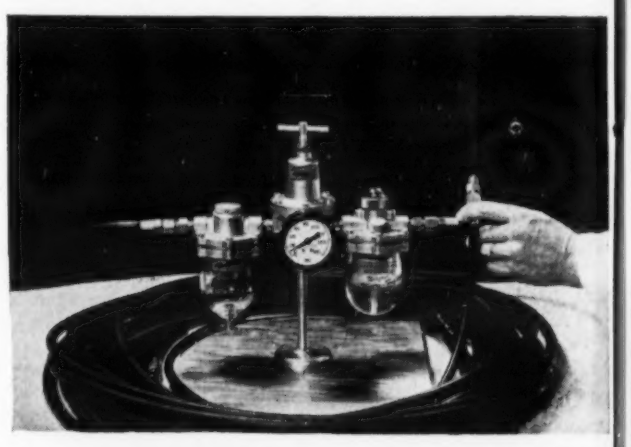
tests prove

Norgren MICRO-FOG

DELIVERS LUBRICATING FOG AFTER TRAVELING THROUGH 130 FT. OF HOSE

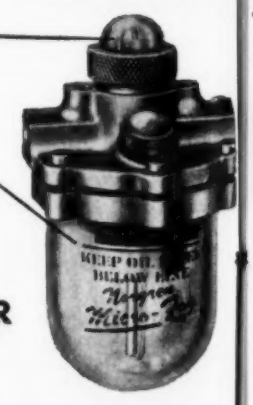


FEATURES OF NORGREN MICRO-FOG LUBRICATORS FOR BEARINGS • GEAR BOXES • CHAIN DRIVES

• VISIBLE OIL FEED

• CONSTANT OIL LEVEL
Rate of feed is not affected by oil supply.

• OIL FEED CONTROLLED BY AIR
Gives accurate control and uniform rate of feed.



WRITE FOR NEW CATALOG NO. 600

PIONEER AND LEADER IN OIL FOG LUBRICATION FOR 26 YEARS

C. A. Norgren CO.
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VALVES — FILTERS — REGULATORS
LUBRICATORS — HOSE ASSEMBLIES

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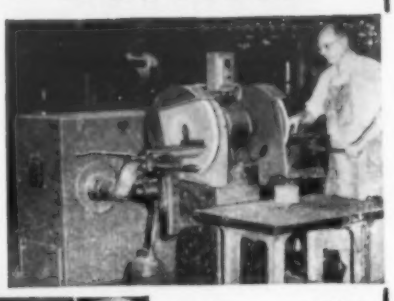
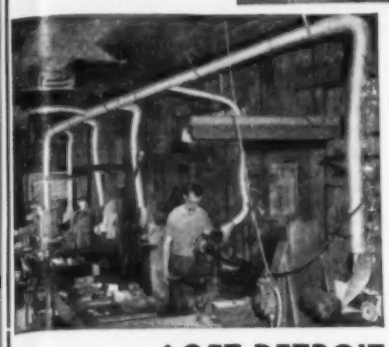
STOP DUST INSTANTLY WITH DUSTKOP

300 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE





2405 ◄ cfm 1400▲ cfm

DUSTKOP

WRITE FOR

- RECOMMENDATION about your dust problem. No obligation
- CATALOG 605-2

AGET-DETROIT CO.

202 S. Main St. Ann Arbor, Mich.

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HEAT UP STEAM UNITS in 1/8 the TIME

...WITH HEAT-KWIK STEAM TRAPS YOU GET

- faster heating up
- more production
- lower steam consumption
- longer trap life
- reduction in trap capacity factor

V. D. ANDERSON COMPANY
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Cleveland 2, Ohio

Heat-Kwik

FREE CATALOG

New brochure on Heat-Kwik steam traps shows how you can save hundreds of dollars for your plant. Write for free copy.

Super-Silver Top Steam Traps

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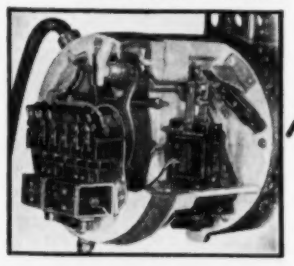
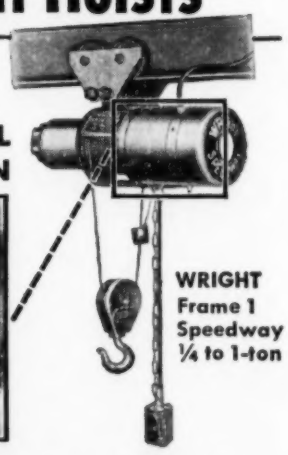
ACCO products

Wright Hoists

EASIEST OF ALL TO MAINTAIN





WRIGHT Frame 1 Speedway ¼ to 1-ton

Saves Maintenance Costs

- Remove side cover and get at solenoid coil, limit switch, and transformer. Take off end cover, and brake assembly and controller are completely exposed.
- WRIGHT Frame 1 Speedways have strong, ductile frames, alloy steel gears, NEMA specification motors, and brakes good for three million applications with two easy adjustments.

Write today for literature and prices

ACCO

Wright Hoist Division
AMERICAN CHAIN & CABLE

York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

Hoists Trolleys Cranes

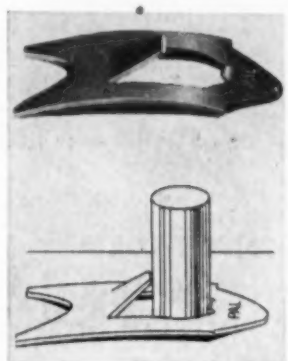
▲ For more details circle NED-153 D4 on enclosed inquiry slip ▲

PRECISION FLOW GUN for applying sealing compounds

Precision flow gun is designed for applying sealing compounds such as asphalt, rubber cement and gasket sealers. It is used with pumping equipment which forces the sealants under pressure to the gun. A selection of 16 nozzles with orifices of various shapes and sizes is available for different types of work. Standard model is designated No. 31 and special model 31V is adapted to applying abrasive materials in the ceramic field. Made by **Binks Mfg. Co.**, Dept. NED, 3122 Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-154 D4 on enclosed inquiry slip ▲

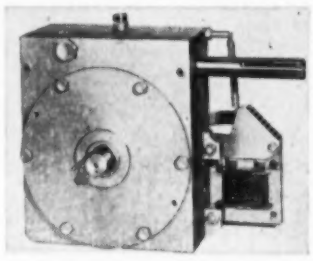
SPRING STEEL FASTENER for use on unthreaded studs or rods



Locking tight with a quick push of inexpensive applicator, type F Pushnut arched spring steel fastener is designed to slip over unthreaded studs or rods. Spring tension pulls parts firmly and gripping tangs hold tightly to preclude rattling or loosening in service. Fastener is offered for 3/32, 1/8 and 3/16-in. rods or studs in plain steel, Parkerized or cadmium finishes. Free samples are available. Made by **Palnut Co.**, 45 Cordier St., Irvington 11, N. J.

▲ For more details circle NED-155 D4 on enclosed inquiry slip ▲

SOLENOID CONTROLLED CLUTCH instantaneous starting and stopping



Touch of switch engages and disengages this solenoid controlled clutch, and starting and stopping are instantaneous. Clutch is available for one revolution and stop, fractions of a revolution or multi-revolutions. Minimum is ¼ revolution, with increases in 1/64 revolution or multiples of 1/64. Built-in worm gear speed reducer has 20:1 and 40:1 reduction ratios. Variations include single or double output shaft extension, left-hand or right-hand input and ratings from fractional to 1 hp. Clutch is self-contained and can be mounted as an assembly and easily installed in existing equipment. Made by **Anderson Bros. Mfg. Co.**, 1901 Kishwaukee St., Rockford, Ill.

▲ For more details circle NED-156 D4 on enclosed inquiry slip ▲

SAFETY wheel blocks and chocks STOP ACCIDENTS!

Model WB-2 —for holding parked trucks, trailers, compressors, drill rigs safely spotted.

Model WC-1—Retractable wheel chock—designed for active use at loading docks.

Model WB-4—Extra heavy duty; widely used by tow truck operators, etc.

Model WB-3—Designed for Public Utility maintenance trucks. Compact, easily stored.

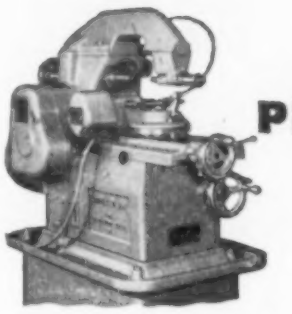
Casteel Safety Wheel Blocks and Chocks are made of 80,000 lb. per sq. in. tensile strength alloy steel — have wide, curved tread plates for maximum tire contact. Ruggedly designed and built for hard use, they will never wear out. Broad base provides safe, sure holding . . . Cast-in gripper teeth hold even on ice or snow. Write for complete details and illustrated circulars.

CALUMET STEEL CASTINGS CORP.
1648 Summer Street • Hammond, Indiana

▲ For more details circle NED-157 D4 on enclosed inquiry slip ▲

CUT COST of PRECISION gear PRODUCTION

5416



THIS FACT has been demonstrated time and time again

If you produce small, fine pitch, precision gears, up to 6" O.D. of the gear blank, use of the Hamilton Precision Gear Hobber will enable you to attain more gear precision with no sacrifice in gear production, or increased gear production with no sacrifice in gear precision . . . or both!

WANT FACTS?

Write for Hamilton Bulletin No. 5416. Address The Hamilton Tool Company 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool

USE IT WITH CONFIDENCE

▲ For more details circle NED-158 D4 on enclosed inquiry slip ▲

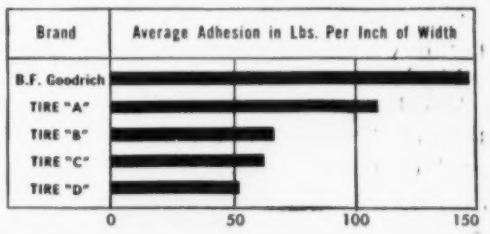
B.F.Goodrich

FREE TIRE AND WHEEL ANALYSIS can cut your tire maintenance costs 20% or more

TIRE maintenance costs cut 20%. Total tire costs lowered as much as 50%. Such savings have been reported by industrial tire users across the country through the use of the B. F. Goodrich Tire and Wheel Analysis Plan! Simply contact your BFG retailer or mail the coupon below. Without cost or obligation a trained B. F. Goodrich man will analyze your materials handling operations and make recommendations which will cut your tire and maintenance costs. A special TW Analysis is available for industrial equipment manufacturers.

DO YOU HAVE THIS PROBLEM? Poor adhesion of rubber to steel caused this tire to fail prematurely. The chart below, based on extensive comparison tests of leading makes of tires, proves the superior adhesion qualities of B. F. Goodrich solid industrial tires.

Tests Prove B. F. Goodrich Adhesion Best



The B. F. Goodrich Company
Tire & Equipment Division
Department TW 382, Akron 18, Ohio
Please send me:
☐ Additional information on your Tire and Wheel Analysis Plan
☐ Free copy of "Industrial Tire Guidebook"
☐ Free copy of "How to Get Extra Service Out of Solid Industrial Tires"
Name_____
Company_____
Street_____
City_____ Zone____ State____

Specify B. F. Goodrich tires when ordering new equipment

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle NED-159 D4 on enclosed inquiry slip ▲

C/R JAW-HEAD

The best "soft" hammer your money can buy!

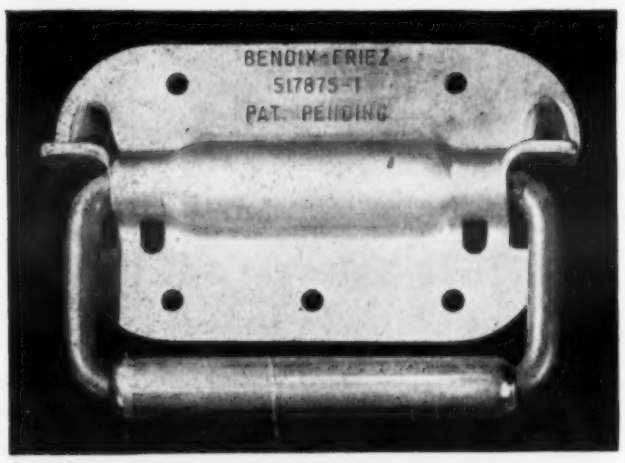
Tough, resilient water buffalo faces deliver plenty of power with full protection for delicate parts and finishes. Faces are easily replaced, and comfortable Safety-Flare handle gives you non-slip grip. Work goes better with a C/R RAWHIDE Jaw-Head. See for yourself.

• Available from leading industrial suppliers. Also C/R Rawhide mallets and Rawhide mauls. For further information write Dept. 22.

CHANGE FACES IN SECONDS

CHICAGO Rawhide MFG. CO.
1301 Elston Ave. Chicago 22, Illinois
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario

▲ For more details circle NED-160 D4 on enclosed inquiry slip ▲



A NOISELESS HANDLE!

For manufacturers of portable equipment, carrying cases, parts, boxes . . . or anything that has to be lifted.

What's a large instrument manufacturer doing making handles?

We couldn't seem to find one for our own use that pleased us . . . so we made one ourselves.

Manufacturers who saw it and needed a better handle liked it. It was rust-proof. It recessed. It was rattle-proof. It has a patented "snap-back" principle. It withstands shock and vibration. It's truly rugged.

Since then, we've had a great many inquiries about our handle. They range from an aircraft manufacturer who has ideas about a flexible cargo fuselage . . . to a man who crates turtles for shipping . . . to the man who put rockets together for shipment.

But if you've got something that's got to be lifted by handles . . . chances are this Bendix-Friez handle is for you.

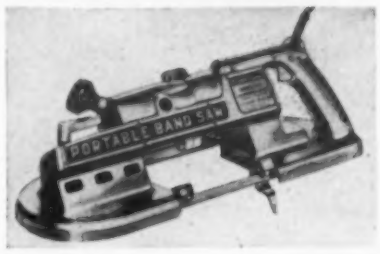
Built of aluminum and stainless steel, it can be riveted or welded to any kind of container or depressed in the sides. Small or large quantity orders. Inquiries answered promptly.

BENDIX FRIEZ

FRIEZ INSTRUMENT
Division of Bendix Aviation Corporation
1444 Taylor Ave., Balto. 4, Md.
EXPORT SALES
Bendix International Division
204 E.42nd St., New York 17, N.Y. U.S.A.

▲ For more details circle NED-161 D4 on enclosed inquiry slip ▲

PORTABLE METAL BAND SAW
compact 16-lb machine has cutting capacity of stock up to 3¼ x 4¼ in.

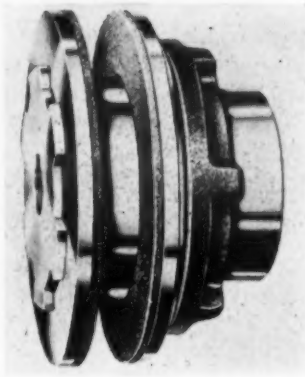


Complete portability is featured by model 524 Porta-Band metal-cutting band saw which weighs just 16 lb and has cutting capacity up to 3¼ x 4¼-in. rectangular stock and up to 3¼-in. round stock. Saw can be operated easily in any position—overhead, vertically, or within ¼-in. of flush with floor. The ½-hp Universal 115-v ac motor turns over 94 times for every revolution of drive pulley to give unit its high cutting power. Band speed is 240 surface fpm under load.

Continuous flexible blade is 0.020-in. thick, 44⅞ in. long and ½-in. wide. Blades are available in range of 6 to 32 teeth per inch for all types of cutting. Entire machine measures only 7½ x 7½ x 19½ in. Housing is die-cast satin finished aluminum. Motor is controlled by trigger switch located in convenient loop handle and is equipped with built-in 10-ft cord. Made by **Porter-Cable Machine Co.**, 33 Exchange St., Syracuse 8, N. Y.

▲ For more details circle NED-162 D4 on enclosed inquiry slip ▲

OVERLOAD PROTECTION DEVICES
adjustable torque-limiting type in capacities from 20 to 620 lb ft



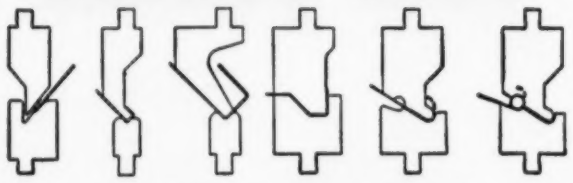
A powered metal bushing on which such drive components as chain sprockets, V-belt pulleys or gears can be mounted is feature of Morse adjustable torque limiter overload protection devices. Units are offered in 11 models with torque capacities from 20 to 620 lb-ft. They act as automatic shear pin mechanisms and are torque sensitive, compact, need no resetting and are tamperproof.

Typical applications include drives for conveyors, handling equipment, automated machine tools and packaging machinery. Device consists of driving or driven member (sprocket, sheave or gear) combined with spring loaded friction clutch that can be adjusted to slip when desired torque is exceeded. When this happens, driven member breaks away from clutch facings and slips at from ⅓ to ½ torque setting. Various models can be mounted on shafts from ½ to 2½ in. diameter. Made by **Morse Chain Co.**, Dept. ND, 7601 Central Ave., Detroit 10, Mich.

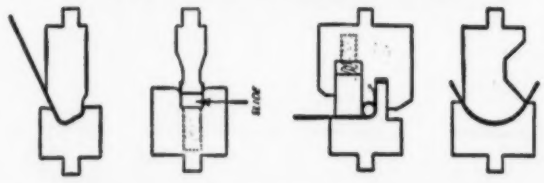
▲ For more details circle NED-163 D4 on enclosed inquiry slip ▲

famous "34 year"

BRAKE DIES

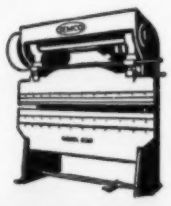


ANY SPECIAL SIZE OR SHAPE CAN BE DEVELOPED BY OUR EXPERIENCED ENGINEERS



Made by the makers of SEMCO PRESS BRAKES (6ft.—8ft.)

Write for new literature showing 26 Standard Brake Die styles and 2 sizes of low priced Press Brakes.



SEMCO
SERVICE MACHINE CO., INC.
202 MILLER STREET ELIZABETH 4, N. J.

▲ For more details circle NED-164 D4 on enclosed inquiry slip ▲

Load and Unload Trucks and Trailers EASIER • FASTER • SAFER with ALVEY power driven BOOM CONVEYOR

showing boom partially extended

You can cut down "manhandling" of Packages at loading docks — reduce tie-ups of trucks and trailers for both incoming and outgoing merchandise. Motor driven mechanism is reversible so the powered belt operates in either direction. Push button controls permit exact control by the operator.

An Alvey Engineer will be glad to discuss these power driven booms — or any conveyor problem with your technical staff. Please write for an appointment.

ALVEY CONVEYOR MFG. CO.
9259 Olive Street Road • St. Louis 24, Missouri
Branch Offices in Principal Cities
138A

ALVEY

▲ For more details circle NED-165 D4 on enclosed inquiry slip ▲

UNIVERSAL DRILL BUSHINGS OUTLAST THEM ALL!

Machined from high quality steel. Superhoned bores reduce wear. Blended radius helps prevent tool hang-up and breakage. 100% concentricity and hardness tests insure accuracy and uniform quality. Available in a complete range of standard sizes and lengths. Orders for special dimensions promptly handled. Write for complete information.

180-A

UNIVERSAL ENGINEERING CO.
FRANKENMUTH 5, MICHIGAN

▲ For more details circle NED-166 D4 on enclosed inquiry slip ▲

Get TUFF-TEX for floors *that get a bang out of production!*

The thump and vibration of heavy machines . . . the constant flow of plant traffic . . . calls for heavy-duty flooring like Tuff-Tex* *Greaseproof* Industrial Tile.

Lubricating oils, grease, metal chips can't hurt Tuff-Tex.

Available in many handsome colors, Tuff-Tex offers unusual versatility of design . . . both decorative and functional.

Send for Tuff-Tex folder or call in your Tile-Tex* contractor, listed in the classified pages of your phone book.

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois

Tile-Tex—Pioneer Division, The Flintkote Company, P. O. Box 2218, Terminal Annex, Los Angeles 54, California

The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada

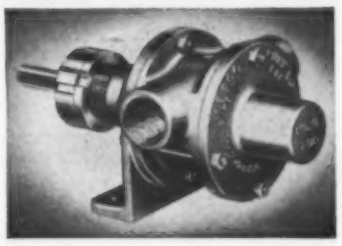
*REG. U. S. PAT. OFF.

TUFF-TEX GREASEPROOF INDUSTRIAL TILE

▲ For more details circle NED-167 D4 on enclosed inquiry slip ▲

JABSCO STAINLESS STEEL PUMPS SOLVE CORROSIVE PUMPING PROBLEMS

Designed and Engineered for Chemical Applications



Jabsco's complete line of self-priming, corrosion-resistant pumps answer a multitude of pumping needs. Models 2810 (1" pipe size), 2870 (½"), and 2690 (⅜") have all metallic parts of Type 316 stainless steel. Shafts are supported by oversize, replaceable carbon bearings, stuffingbox type shaft seal with chemical resistant packing. Pumps function perfectly even with dry suction lifts approaching 15', no foot valve is required. When primed, they suck as high as 26'. Jabsco pumps have no metal-to-metal contact, no gears to wear or become noisy. The exclusive "camflexed" Neoprene Impeller is the only moving part. This tough, long-lived, wear resistant impeller is self-lubricated by the liquid pumped. Jabscos are economical, low in first cost, and trouble and maintenance free, even under continuous operation. May be mounted at any angle to pump thin or viscous liquids, and can be operated efficiently at low or high speeds. At 10' head and 1750 RPM, Model 2810 delivers up to 27 GPM, Model 2870 up to 10 GPM, Model 2690 up to 4 GPM. Other stainless steel models also available with ball bearings and mechanical seals. For complete information on how Jabsco can solve your pumping problems, write **Jabsco Pump Company,** 2031 North Lincoln Street, Burbank, California.

ADVT.

▲ For more details circle **NED-168 D4** on enclosed inquiry slip ▲

"Best Suited" for HIGH TEMPERATURES

VARGLAS SILICONE
CLASS H
TUBING and SLEEVING

for applications requiring prolonged heat endurance at temperatures up to 260°C.

Varglas Silicone tubing and sleeving were developed by Varflex for applications involving continuous operating temperatures up to 260°C. Exceptional stability is combined with the following qualities . . .

Flexibility—Sharp turns and 90° bends cause no cracking or peeling—no loss of dielectric strength.

Dielectrically-Strong—All Grades conform to NEMA and MIL-I-3190 Standards.

Moisture-Resistant—including resistance to salt water, mild alkalis and acids.

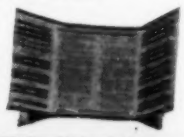
Flame-Resistant—Standard burning test is 45 seconds to burn 1 inch. Can be made self-extinguishing on special order.

Cold-Resistant—Excellent resistance to chafing and abrasion, flexible to —35°C.*

**For temperatures down to —65°C., and for applications requiring extraordinary flexibility, we recommend our new Varglas Silicone Rubber sleeving and tubing. Inquiries invited.*

Varflex CORPORATION
Makers of Electrical Insulating Tubing and Sleeving

Send for FREE SAMPLES
Write today for free folder containing 25 different test samples of Varflex insulating sleeving, tubing, lead wire and tying cord.

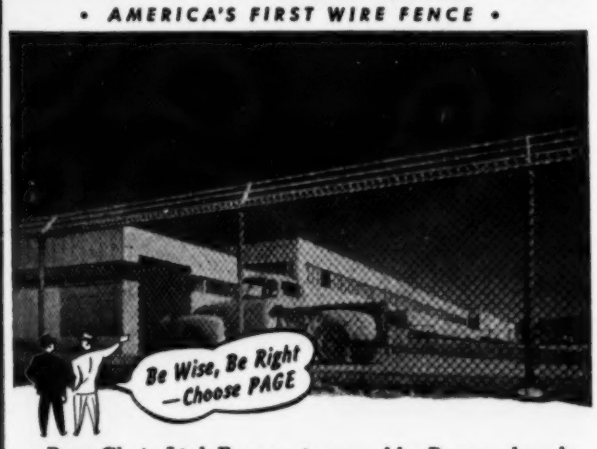


VARFLEX SALES CO., INC., 310 N. Jay St., Rome, N. Y.

▲ For more details circle **NED-169 D4** on enclosed inquiry slip ▲

PAGE FENCE—Since 1883

• AMERICA'S FIRST WIRE FENCE •



• Page Chain Link Fence, pioneered by Page and made only by Page, is quality controlled from raw metal to erected fence. Whether you choose heavily-galvanized Copper Bearing Steel, or long-lasting Stainless Steel, or corrosion-resisting Aluminum, you'll have a rugged fence on sturdy metal posts deep-set in concrete. Choose any one of 8 basic styles, varied by heights, types of gates, posts, top rails and barbed wire strands for extra protection. And to be sure of reliable workmanship your fence will be expertly erected by a specially trained firm. For helpful Page data and name of member nearest you—

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

▲ For more details circle **NED-170 D4** on enclosed inquiry slip ▲

BENCH COMPARATOR
has 10-in. screen, below-stage light

Below-stage illumination is incorporated in the Bench Comparator, a rapid optical inspection tool for viewing parts in silhouette on 10-in. screen. Simply placed on open stage, most parts are held by the simplest guides or holding devices. Several inspection checks can be made without moving part under examination. Measuring attachment available as an extra is quickly put on or removed from stage and is graduated in 0.0001-in. for both front-to-back and side-to-side movements. Distributed by DoALL Co., comparator is made by **Bausch & Lomb Optical Co.,** 727 St. Paul St., Rochester 2, N. Y.

▲ For more details circle **NED-171 D4** on enclosed inquiry slip ▲

ELECTRIC FIRE DOOR OPERATOR
door closes in event of fire

Automatic door operation in doorways equipped with fire doors is provided by Fuse-O-Link electric operator for use with standard inclined track doors up to approximately 8-ft wide. By means of a fusible link, operator is disengaged from the door in the event of fire, allowing it to close. Including approach pull cord, push button, floor plate and photoelectric cell, any suitable means can be used to control the operator. Optional equipment is an instant reverse safety device which automatically reverses the travel of the door if closing upon personnel or other obstruction. Device permits doors to be kept closed at all times except when in actual use and eliminates lost time and inconvenience of manual operation. Made by **Clark Door Co.,** 183 Rose St., Newark 8, N. J.

▲ For more details circle **NED-172 D4** on enclosed inquiry slip ▲

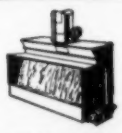
Dust Collector

Pangborn Corp.—Unit-type CN cloth bag dust collector, available in seven sizes with cloth bag area ranging from 200 to 1000 sq ft for control of all types of finely divided dry dusts is covered in 4-page illustrated catalog 916. Construction, assembly and operation are described, and applications suggested.

▲ For more details circle **NED-173 D4** on enclosed inquiry slip ▲

Everything FOR SPRAY PAINTING and COATING

PAINT SPRAY GUNS
13 different models



SPRAY BOOTHS
over 510 styles and sizes

AIR COMPRESSORS
60 models 1 to 105 c.f.m.

OIL AND WATER EXTRACTORS
7 models to supply clean, dry air

HOSE AND ACCESSORIES
12 types of hose all accessories

Binks

the complete, 1-source line of integrated equipment

If the material can be applied by spraying, you will find in Binks complete line exactly the right equipment to do the job better, a little faster and usually more economically. You have more than 1,100 *standard* products from which to choose...all designed to work together.

Ask your Industrial Distributor or write for Catalog No. 955

Binks

BINKS MANUFACTURING COMPANY
3122-34 West Carroll
Chicago 12, Ill.

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES
SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle **NED-174 D4** on enclosed inquiry slip ▲

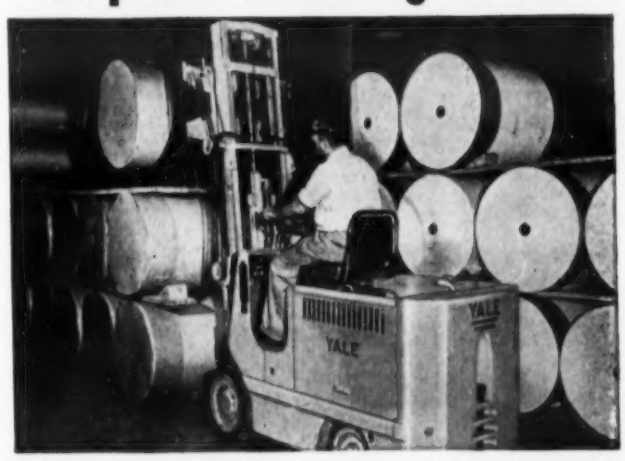
Like hundreds of other industrial plants, Morrison Products Company has discovered that "Bear" Dy-Namic Balancing Machines attain high standards of accuracy at favorable production rates and with minimum capital investment. Reduce noise, vibration, friction, bearing failure thru Dy-Namic Balancing. **FREE MANUAL** shows how! Write: Bear Mfg. Co., Dept. N5, Rock Island, Ill.

60n9

"BEAR"
STATIC AND *DY-NAMIC BALANCING* MACHINES
balance rotating parts weighing from 4 oz. to 8 tons

▲ For more details circle **NED-175 D4** on enclosed inquiry slip ▲

Now one Yale Electric Truck serves a variety of plant handling needs



▲ Efficient handling is assured with this Yale Electric Truck and Yale use-extending attachments.

Attachments enable Yale Trucks to perform dozens of specialized jobs

Hydraulic Clamping Device

Pusher Attachment

Interchangeable YALE attachments . . . installed in minutes—removed as easily . . . put the mighty power plant and trouble-free hydraulic system of a YALE Electric Truck to work where you want it . . . doing jobs that formerly took many men hours or days.

Versatile YALE Electric Trucks . . . and the industry's widest range of Gas, Diesel, and LP-Gas models . . . are now available under a flexible "3-Way-Finance-Plan" that is quickly adaptable to your needs. Ask your YALE representative for details or mail the coupon.

YALE*

INDUSTRIAL TRUCKS AND HOISTS

*Reg. U. S. Pat. Off.

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 374
Roosevelt Boulevard, Philadelphia 15, Penna.
Please send me further information on:
☐ YALE Trucks and attachments ☐ 3-Way-Finance-Plan

Company _____
Name _____ Title _____
Street _____ City _____ State _____
In Canada write: The Yale & Towne Manufacturing Company St. Catharines, Ontario, Canada

Gas, Electric, Diesel & LP-Gas Industrial Trucks
Worksavers • Hand Trucks • Hand & Electric Hoists • Pul-Lifts

▲ For more details circle **NED-176 D4** on enclosed inquiry slip ▲

The PROFILOMETER

The Profilometer measures the roughness of practically ALL surfaces, internal and external, in microinches (arithmetical or r.m.s. average). It's rugged, portable, and simple to use; no experience needed. Used in thousands of production departments — *at the machines.* Sold and serviced by *specialists* in surface measurement . . . since 1936.

FREE BULLETIN LT89 gives details; shows typical applications. Write!

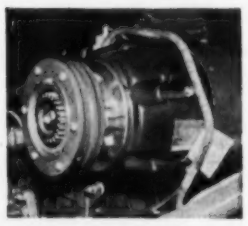
Profilometer is a registered trade mark.

MICROMETRICAL MANUFACTURING COMPANY
345 S. MAIN ST. ANN ARBOR 9, MICH.

▲ For more details circle **NED-177 D4** on enclosed inquiry slip ▲

COMFORT ALOFT

. . . hits a new high with SEALOL Seals



Sealol is one of the small details that make a big difference to the comfort of passengers on the big new **Douglas DC-7** airliner. A **Sealol** mechanical shaft seal serves at the power takeoff for the supercharger which pressurizes and air conditions the DC-7 cabin.

Three factors influenced the selection of Sealol in this case: **(1) compactness (2) light weight, and (3) super-dependability** — characteristics which are highly desirable for this and many other aircraft applications. These factors, plus Sealol's outstanding ability to handle extreme sealing conditions, make it the ideal selection for countless uses. Sealol Seals are handling pressures to 1500 psi., rubbing speeds to 15,000 FPM, temperatures to 500°F.

OTHER SEALOL APPLICATIONS

Sealol Seals are on turbojet engines, processing tank agitator shafts, high pressure hydraulic pumps, process pumps, centrifugal compressors, blowers, and many other types of equipment.

May we help you? Send blueprints and specifications for "no-obligation" recommendations, or write for Bulletin 7. **Sealol Corporation, 47 Willard Avenue, Providence 5, R I., Chicago, Cleveland, Los Angeles, Houston, Philadelphia, Kansas City, Charleston (W. Va.), San Francisco, New York.**

SEALOL
THE BALANCED PRESSURE SEAL

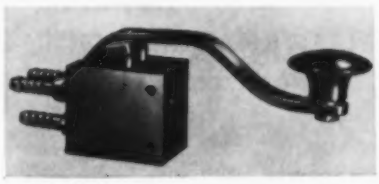
▲ For more details circle **NED-178 D4** on enclosed inquiry slip ▲

SHUT-OFF DEVICE
for pressure failure in air systems

Control valves in pneumatic systems are locked in case of lowering or failure of air pressure by this corrosionproof automatic shut-off device, and thus preventing process and control disruption. Spring loaded diaphragm has supply pressure on one side and system pressure on other. Lowering or failure of supply pressure unbalances diaphragm to close needle valve in control line and lock controlled valves and other devices in position. Made by **Builders-Providence, Inc.,** 425 Harris Ave., Providence 1, R. I.

▲ For more details circle **NED-179 D4** on enclosed inquiry slip ▲

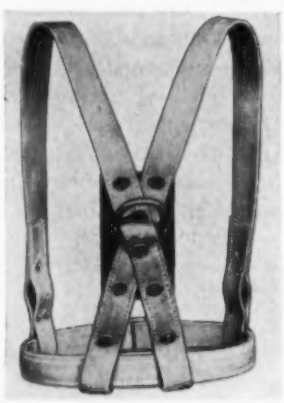
FOUR-WAY VALVE
handles cylinders up to 3-in. bore



Of the four-way type, model FT-4 air valve has ½-in. pipe thread openings, giving ample speed to handle most jobs with air cylinders up to 3-in. bore. Only about ⅛-in. movement of the hand operating lever is required from full open to closed position. Lever returns to starting point after each operation and requires only small operating force. Twin mounting holes on top and sides are provided for mounting purposes. Made by **Mead Specialties Co.,** Dept. S-40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle **NED-180 D4** on enclosed inquiry slip ▲

SAFETY HARNESS
use protects maintenance workers



Designed to protect maintenance workers, erection crews and others from injury by falling, standard safety harness is fabricated from cotton webbing sewn with nylon thread. It is impregnated to give protection against oils, acids and other chemicals. Forged hardware and hand set copper rivets are used throughout. It is one of a complete line of safety belts and harnesses which also includes models made from Latigotan leather. Made by **W. M. Bashlin Co.,** Dept. I, Grove City, Pa.

▲ For more details circle **NED-181 D4** on enclosed inquiry slip ▲

When it has to Run for Years and Years
WITHOUT FAILURE
MAKE IT A LEIMAN VACUUM AND PRESSURE PUMP

Leiman users say this:
"Almost continuous operation, 24 hours a day for 21 years"
"Using Leiman pumps on 350 machines. No pump has given a moment's trouble"

4-WING TYPE. Vacuums to 20"; pressures to 15 lbs.; displacement to 162 cfm. Wings take up their own wear, insure positive pressure or vacuum.

2-WING TYPE. Vacuums to 29.9"; pressures to 25 lbs.; displacement to 40.8 cfm. Automatic wing adjuster forces steel blades to meet cylinder wall, no sticking.

Write for 16-page catalog and blueprints of typical applications on Leiman rotary positive pumps—choice of industry since 1889.

LEIMAN BROS., INC.
167 Christie Street, Newark 5, N. J.

SEE OUR CATALOG IN SWEET'S FILE

▲ For more details circle **NED-182 D4** on enclosed inquiry slip ▲

Now, Soldering as Easy as Writing

You save with the G-E midget iron for soldering in tight places!

REDUCED OPERATOR FATIGUE—G-E midget iron is lightweight, has good balance, and cool, comfortable handle.

LONG LIFE—Extra-long-wearing Ironclad tips resist pitting and corrosion. Free bulletin GEA-4519 gives you complete information. Write to Sect. 720-127, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

▲ For more details circle **NED-183 D4** on enclosed inquiry slip ▲

FOR COMPLETE PROTECTION
FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S
FISH BRAND
*NEOPRENE

These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER protective garment especially adaptable for every type of industrial activity. We will be glad to recommend the garment which best meets your individual requirements.

**A chemical rubber product of the DuPont Company*

For folder of styles and detailed information write Department SF.

NEOPRENE RUBBER

TOWER'S FISH BRAND — A. J. TOWER CO. — TOWER'S ARROW BRAND
24 SIMMONS ST., BOSTON, MASS.

▲ For more details circle **NED-184 D4** on enclosed inquiry slip ▲

Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation.

If your problem is high speed coating of paint, varnish, glue, latex, etc.—POTDEVIN'S sixty years of specialization in coating equipment can quickly help you solve it.

Illustrated is a special machine to uniformly paint wood up to 2 inches thick and 30 inches wide.

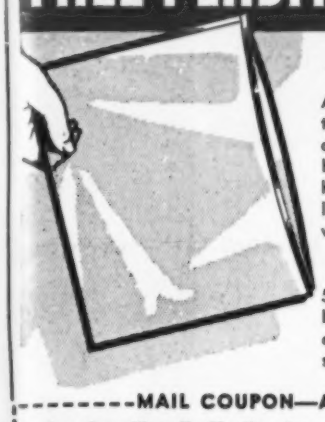
ESTABLISHED IN 1893 — POTDEVIN

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

▲ For more details circle **NED-185 D4** on enclosed inquiry slip ▲

WANTED
5,000 MORE PLANT MANAGERS TO ASK FOR
FREE PLASTIC ENVELOPE



TO PROTECT JOB-TICKETS

Ask for *FREE* transparent envelope that keeps your work records safe, clean, and readable. Don't gamble with dirty fingerprints that hold up production. And don't let a grease spot raise havoc with your instructions.

SEND NO MONEY

50 sample work-sheet envelopes handed to your operators will convince you better than one sample.

MAIL COUPON—AND SAVE 30%

American Kleer-Vu Plastics, Inc.
53-06 Grand Avenue, Maspeth 78, N. Y.

Please send us 50 Kleer-Vu acetate envelopes, 10" x 12½", .005 gauge, with sewn edges, to protect factory tickets from smudging and tearing . . . If 100% satisfied, we will honor your invoice for only $9 (regular price $13). If not, we will return envelopes at your expense.

For more details circle **NED-186 D4** on enclosed inquiry slip

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JACO Horizontal
STOCK REEL

LOW COST — AUTOMATIC
No motors — No belts — No sprockets

POWERED BY THE NATURAL SPRING OF UNCOILING STOCK . . .

JACO Stock Reel operates automatically . . . without attention or maintenance . . . so simple there is nothing to get out of order.

The loop of stock between the Coil and the Press Feed completely eliminates slippage, kick-back and over-run.

JACO Stock Reels handle all types of resilient coiled stock for light stampings up to 250 lb. coil weight . . . up to 36" coil diameter . . . up to 6" stock width.

Proved in actual use by major manufacturers. Guaranteed to work on your job or money back.

Write today for full details
Hingham 6-0873
JACO DEVICES, INC.
95 High St., Hingham, Mass.

For more details circle **NED-187 D4** on enclosed inquiry slip

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NET-11 AGASTAT

NEW!
TWO STEP AGASTAT
Trademark
TIME DELAY RELAYS

Single units for applications requiring a sequence of time delay relay periods—such as sequential starting of motors—or an adjustable momentary impulse, as in operating air valves of air cylinders on indexing machines. Time delay range of from 0.1 seconds to 10 or more minutes, with a secondary delay period up to 15 seconds. Compact, lightweight pneumatically timed units, low in cost and remarkably versatile.

Write for specifications—and ask our application engineers for help with your timing problem. Address Dept. A7-45.

AGA DIVISION ELASTIC STOP NUT CORPORATION OF AMERICA
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing

For more details circle **NED-188 D4** on enclosed inquiry slip

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GRINDER-POLISHER
flexible abrasive belt type

Designed for use with 1-in. abrasive belts, model F-1 grinder-polisher has 10½ in. throat depth, permitting finishing of large irregular shapes. It is equipped with an adjustable work table for angle generation, and the platen permits accurate grinding of flat surfaces. Unit is available either as bench or floor models and with built-in dust collector. Standard belt speed is 2150 sfpm with a ⅓-hp motor. Work table and platen can be quickly removed for extra capacity if desired. Made by **Hammond Machinery Builders, Inc.,** 1623 Douglas Ave., Kalamazoo 54F, Mich.

For more details circle **NED-189 D4** on enclosed inquiry slip

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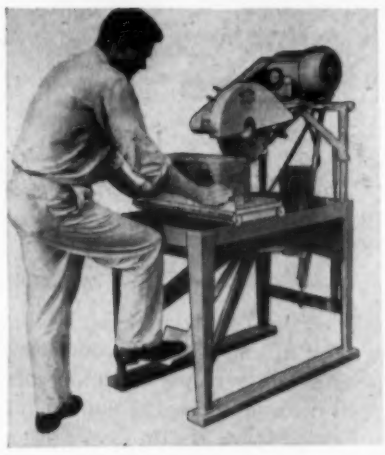
MASONRY SAW
operates either wet or dry and uses diamond or ordinary abrasive wheels



Step, through, skew and angle cutting can be performed by the Di-Met masonry saw which operates either wet or dry and uses either diamond abrasive blades or abrasive cut-off wheels. Adjustments are made from operating position. Head is raised to necessary height on two telescoping standards by series of pumps on foot pedal. Arbor can be tilted and rigidly locked at desired angle. Head lowers by gravity, but speed of descent is controlled by adjustable hydraulic retardant.

For portability, head and motor are easily removed from frame by loosening two pivot screws. Base of welded steel tubing with rigid cross bracing contains coolant tray and rolling table mounted on replaceable steel tracks. Electric pump supplying coolant to blade for wet cutting is direct-driven and independent from blade power supply. The 1½-hp motor operates on both 110 or 220 v through selector switch. Made by **Felker Mfg. Co.,** 1125 Border St., Torrance, Calif.

For more details circle **NED-190 D4** on enclosed inquiry slip

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LOW COST, RUGGED
Hydraulic
SKID TRUCKS
for loads up to 1000 lbs!

- ★ HYDRAULIC RAISING & LOWERING
- ★ PUSHES OR PULLS
- ★ FLOOR PROTECTIVE WHEELS
- ★ ALL STEEL WELDED CHASSIS
- ★ LIGHT WEIGHT
- ★ COVERED STEEL PLATFORM USED AS PLATFORM TRUCK

● Fully illustrated bulletin HST-19 describes this versatile truck in detail. Write for it today. Catalog GP-17 describing many standard Ironbound cost-saving units will be sent you without obligation, too.

IRONBOUND BOX & LUMBER COMPANY
55 Hoffman Place, Hillside, New Jersey

Ironbound — **IRONBOUND**

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, SKID TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

For more details circle **NED-191 D4** on enclosed inquiry slip

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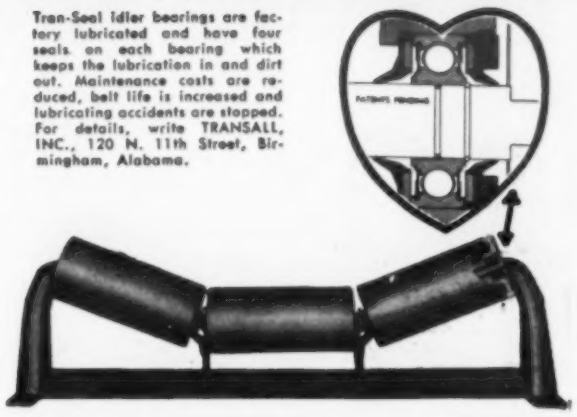
INCREASE Belt Conveyor SAFETY!

Tran-Seal Idler bearings are factory lubricated and have four seals on each bearing which keeps the lubrication in and dirt out. Maintenance costs are reduced, belt life is increased and lubricating accidents are stopped. For details, write TRANSALL, INC., 120 N. 11th Street, Birmingham, Alabama.



IDLER NEVER NEEDS RE-LUBRICATION

The heart of a Tran-Seal Idler is its permanently lubricated bearings (left) which NEVER need re-lubrication. Therefore accident hazards to personnel, who otherwise would periodically lubricate your belt conveyor, cease to exist when you use Tran-Seal Idlers. They have precision ground, heavy duty, sealed ball bearings which are *service* proven. 120-E

TRANSALL SECTIONAL BELT CONVEYOR SYSTEMS

For more details circle **NED-192 D4** on enclosed inquiry slip

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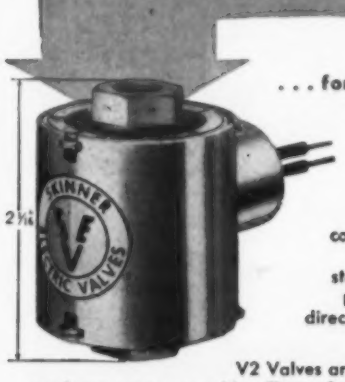
How to solve design problems with Pliobond

New Booklet Tells You how designers and manufacturers have solved cost, assembly and product performance problems with PLIOBOND—Goodyear's thermoplastic adhesive that "bonds anything to anything." Case histories show how the unusual properties of easy-to-apply, fast drying, high strength, oil-, chemical-, and water-resistant PLIOBOND have lowered cost, speeded production and improved quality in a wide range of products. Write for this free folder, today. Address: Goodyear, Chemical Division, Dept. P-9423, Akron 16, Ohio.

Pliobond—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-193 D4** on enclosed inquiry slip

SKINNER V2 STAINLESS STEEL SOLENOID TWO-WAY CUT-OFF VALVES



. . . for Air, Water, Inert Gases, Oils & Other Media

Miniature Skinner V2 Stainless Steel Valves are competitively priced, yet skillfully engineered to highest quality standards. Stainless steel internal parts, leakproof operation, and direct mounting make them ideal for a wide range of applications.

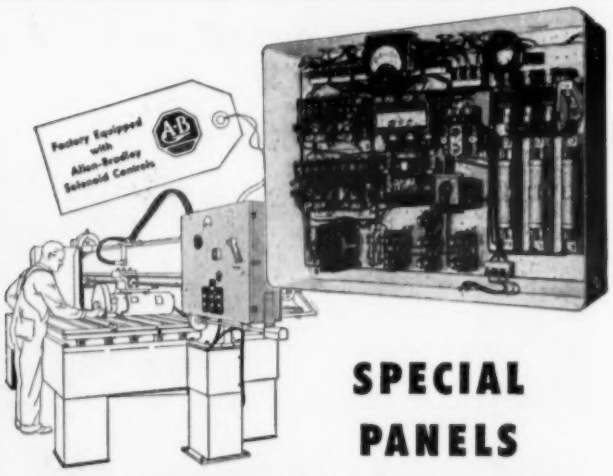
V2 Valves are small (weigh 9 ozs.), yet give performance measured in millions of cycles. They feature "fail-proof", bubble-tight shut-off: pressure and spring combine to snap valves to normal position at the instant current goes off.

SPECIFICATIONS: Type: Two-Way, Normally Open or Normally Closed; Pressure Range: 0-250 PSI; Orifice Diameter: 3/64" to 1/8"; Pipe Size: 1/8" or 1/4" NPT; Voltage: All common AC, DC voltages. *Write for Bulletin 534.*

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY

112 Edgewood Ave., New Britain, Conn.

For more details circle NED-195 D4 on enclosed inquiry slip



SPECIAL PANELS for SEQUENCE CONTROL

Any Size • Any Sequence • Any Machine

Allen-Bradley special control panels can be engineered to fit your particular machine. They can be designed for any sequence of automatic operation of motor driven machines. Such special panels, made by Allen-Bradley from standard components, provide correct sequence control, greater safety for operators, and lower installation and maintenance costs. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

For more details circle NED-196 D4 on enclosed inquiry slip

TINNERMAN *Speed Nuts*

Increase Production... Cut Assembly Costs

Snap into Bolt Receiving Position; Eliminate Welding and Staking!

Combine 2 Fasteners in ONE; Eliminate tapped Plates!

For better fastening methods, do as thousands of industry's leaders have . . . turn to SPEED NUTS, "The Fastest Thing in Fastenings." Above are two of thousands of standard types available to reduce assembly time, cut material costs and save on materials-handling! See your TINNERMAN representative or write direct for details on our FREE Fastening Analysis service for your products!

TINNERMAN PRODUCTS, INC.
Dept. 12, Box 6688, Cleveland 1, Ohio

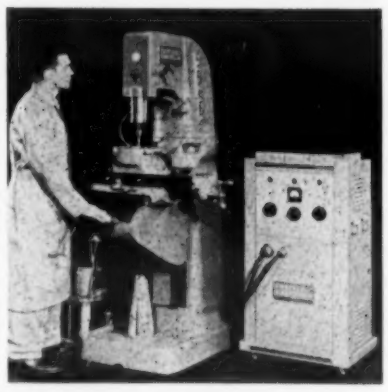
For more details circle NED-197 D4 on enclosed inquiry slip

DRILLING MACHINE is multiple, straight line type

Capacity to drill six 5/8-in. holes in steel, twelve 5/8-in. holes in cast iron, sixteen 3/4-in. holes in brass or sixteen 1-in. holes in aluminum is feature of this multiple, straight line Root style F-406 drilling machine. Unit is made in two sizes, one with 4-ft drilling length and the other with 6-ft drilling length. It has hydraulic feed system with two foot levers for controlling table at any point of feed or return. Spindles are ball bearing equipped with gear chamber enclosed. Special micrometer adjustment to nose of each spindle permits accurate depth control of each hole. Made by **B. M. Root Co.**, 650 Coble St., York, Pa.

For more details circle NED-198 D4 on enclosed inquiry slip

ULTRASONIC METALWORKING unit precision-cuts hardest material



Designed for machining sintered carbides, Stellites, hardened tool and die steels, Trail Blazer ultrasonic metalworking machine precision cuts any ferrous or nonferrous hard material whether or not it is magnetic or conducts electricity. It can generate accurate holes as small as 0.012-in. diameter, blind, tapered, curved or through holes; serrated root forms of jet turbine blades and many other difficult jobs. Ultrasonic tool head vibrates at from 18,000 to 30,000 cps while a pump provides a continuous flow of abrasive grit over the work surface. Fine finishes are obtained without local heating or chemical or physical change in the work. Made by **Sheffield Corp.**, 721 Springfield St., Dayton 1, O.

For more details circle NED-199 D4 on enclosed inquiry slip

Three-Dimensional Scale Models

Knight Models, Inc.—Various applications of three-dimensional scale models of plants and their equipment in business and industry are outlined in illustrated 4-page folder. It shows how they can be used to advantage in plant layout, site development, architectural and structural planning and product development.

For more details circle NED-200 D4 on enclosed inquiry slip

Your Costs Will Slide Down Too!

Although the PEDRICK PRODUCTION BENDER shown is bending two "D" sections simultaneously for sliding board rails—the same machine is used for bending pipes, tubes, reinforcing bars and structural shapes, by merely changing the die on the central spindle. Most bends can be made in multiple. The automatic duplicate bending feature, included on all models, greatly increases accuracy and production.

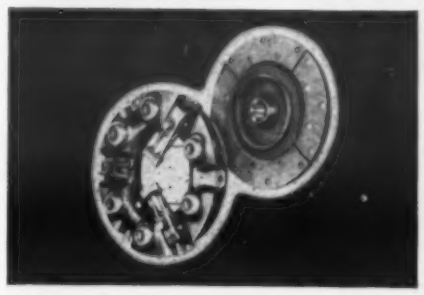
Write For Descriptive Folder, Dept. 6

VISIT OUR BOOTH #1442 AT THE PHILADELPHIA A.S.T.E. SHOW APRIL 26 TO 30, 1954

PEDRICK TOOL & MACHINE CO.
3640 N. Lawrence St. Philadelphia 40, Pa.

For more details circle NED-201 D4 on enclosed inquiry slip

ASSURING SMOOTH EASY OPERATION



ROCKFORD CLUTCHES are carefully adjusted and accurately balanced to prevent drag or centrifugal force from affecting their smooth running operation. An electronic gauge checks the balance of each ROCKFORD CLUTCH, within extremely close limits, before it passes final inspection.

SEND FOR THIS HANDY POWER TRANSMISSION BULLETIN

It shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications. Every development engineer will find help in this handy bulletin, when planning new or improved products.

ROCKFORD CLUTCH DIVISION
Borg-Warner Corporation
319 Catharine Street, Rockford, Illinois

ROCKFORD CLUTCHES

For more details circle NED-202 D4 on enclosed inquiry slip

"MX" ABRASIVE PRODUCTS

finish as they cut . . . resist loading, even on soft metals, alloys

Send for this FREE booklet

Fast-cutting MX Abrasive Products by CARBORUNDUM finish as they cut . . . often let you eliminate one or more operations. They give excellent performance on soft metals such as copper, magnesium, aluminum and aluminum alloys—as well as on steel and steel alloys. MX abrasive products are available in a wide range of grit sizes, and in an extensive selection of forms and shapes, including: Straight wheels for combined deburring and light polishing; mounted wheels and points for high speed portable grinding in hard-to-reach spots; sticks for hand finishing and spinning operations; discs for grinding light welds, removing flash and blending and semi-finishing flat surfaces; depressed center wheels for light and medium weld removal and rough blending flat surfaces—as well as light cutting-off and slotting; production cut-off wheels for non-ferrous metals and dry-cutting with portable equipment; and general purpose cut-off wheels. Complete information on MX products is contained in this 40-page booklet, which is yours for the asking. Use the inquiry form provided by this publication, or—if you prefer, write **The Carborundum Company,** Dept. NED 81-45, Niagara Falls, New York.

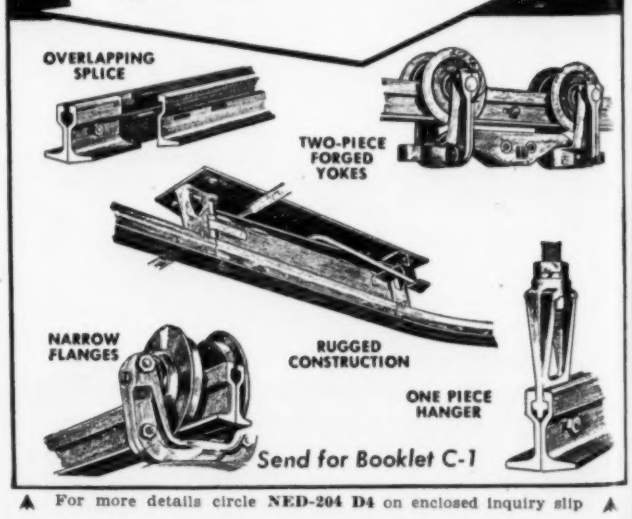
"Carborundum" and "MX" are registered trademarks which indicate manufacture by The Carborundum Company, Niagara Falls, N. Y.

For more details circle NED-203 D4 on enclosed inquiry slip

MONORAIL SYSTEMS FABRICATED TO FIT

American MonoRail is fabricated to fit any handling job. Systems are available for hand or electric operation, including rubber wheel drive with local or remote control providing many automatic features.

AMERICAN MONORAIL CO.
13116 Athens Ave. • Cleveland 7, Ohio



For more details circle NED-204 D4 on enclosed inquiry slip

If you have a labeling problem ordinary labels can't solve...use

AVERY Kum Kleen self-adhesive LABELS

...the tough ones are our specialty

...where other types of labels are found "wanting"...or when you need to substitute an attractive pressure-sensitive label for a costly nameplate... Avery Kum-Kleen labels are the *best* solution to your problem!

...and so are the other kind..

...where you want *faster* labeling... improved appearance...labels that won't pop, curl or peel...or those the housewife can remove without soaking or scraping...there's no substitute for an Avery Kum-Kleen label!

faster • easier • more economical

Patented Avery dispensers...manual or electric... feed die-cut *pressure-sensitive* labels off roller tape, ready to be LAID ON any clean, smooth surface. No moistening...no sticky fingers.
Where can YOU use these labels in YOUR business? Write today for free samples, case histories and prices.

AVERY ADHESIVE LABEL CORP., DIV. 102
117 Liberty Street, New York 6 • 608 South Dearborn Street, Chicago 5
1616 So. California Ave., Monrovia, Cal. • Offices in Other Principal Cities
Originators of Pressure-Sensitive Labels

For more details circle NED-205 D4 on enclosed inquiry slip

LOW PRICED

Alligator Shear

Here is a low priced, fast operating "CANTON" Alligator Shear for processing light industrial scrap and for cutting metals. Cuts 2" square bars in mild steel or 3/8" x 24" in plates. Bronze bushed throughout with adjustable knife seat. Gasoline or electric power is optional.

CATALOG N-3 GIVES DETAILS

The HILL ACME CO.
"CANTON" DIVISION 1209 W. 65TH ST., CLEVELAND 2, OHIO

For more details circle NED-206 D4 on enclosed inquiry slip

Generalift
PALLET BOXES
1. CUT MATERIALS HANDLING COSTS
2. REDUCE STORAGE COSTS

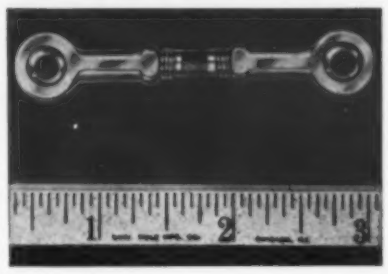
SEND FOR FREE BOOKLET

General Box COMPANY
1859 Miner Street
Des Plaines, Illinois

Factories: Cincinnati; Danville, N. J.; Detroit, East St. Louis, Kansas City, Louisville, Milwaukee; Prescott, Ark.; Sheboygan; Winchendon Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

For more details circle NED-207 D4 on enclosed inquiry slip

BALL END CONNECTING RODS
for machinery, carburetor linkage



Precision built ball and socket type connecting rods for machinery linkage or butane and gasoline engine carburetors are available in sets and have both left and right hand threads. They have spring lock adjustments or lock nuts. Bolt hole sizes range from 3/16 through 5/16-in., while variety of lengths from 2⅞-in. bolt center and up can be obtained. Made by **Avalon Machine Products, Inc.**, 2535 E. Imperial Hiway, Los Angeles 59, Calif.

For more details circle NED-208 D4 on enclosed inquiry slip

STEEL BALL BEARING CASTER
will not jam under load

Nonjamming steel caster employs a curved axle with dual ball bearing sockets to give free starting from any position, and will not lock under maximum rated load. It is fabricated from high strength alloy steel with rust resistant finish. Design also results in a built-in "spring" effect, lessening load shock and vibration. Caster is available in standard 1½ and 2½-in. wheel diameters with either welded or screw type bearing plate. Made by **Rolawheel Co.**, 1757 W. Grand Ave., Chicago 22, Ill.

For more details circle NED-209 D4 on enclosed inquiry slip

DUST COLLECTOR
for use with surface grinder

Fifteen spark-resistant filter bags, each equipped with a nylon bristle brush which makes possible easy daily cleaning from the exterior, are incorporated in this dust collector. Built for use with the 6-12 surface grinder made by the company, the unit does not require additional floor space as the grinder uses the dust collector for its stand. Use can also be with any other types of equipment. Made by **Boyar-Schultz Corp.**, 2110 Walnut St., Chicago 12, Ill.

For more details circle NED-210 D4 on enclosed inquiry slip

*BETTER PROTECTION FOR ALL TYPES OF FLOORS!

At last here's a waterproof floor wax that will last and last and last on any and all types of floors. When the easy method of application is followed you can expect Multi-Clean Wax to last three times as long as the kind you are now using. It dries to a hard, anti-slip finish in 20 minutes . . . will quickly polish to a high gloss, anti-slip surface if desired. Multi-Clean wax is available in two types, regular or anti-slip, fortified with DuPont "Ludox". Both are U/L approved "Anti-slip".

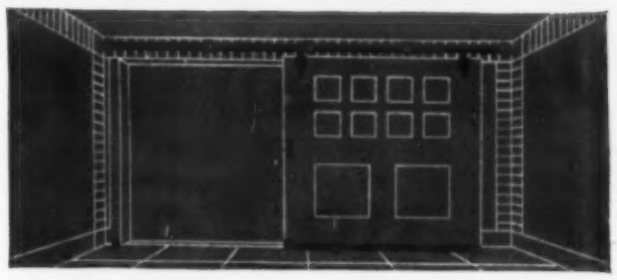
Multi-Clean waxed floors are easier to keep clean . . . require only dust mopping under most conditions . . . can be washed, wet-mopped or machine buffed many, many times without wearing away the wax finish, yet the wax can be easily removed with Multi-Clean Wax Remover when desired. We'll be happy to prove Multi-Clean Wax if you'll drop us a note on your letterhead . . . just address—

MULTI-CLEAN PRODUCTS, INC.
2277 Ford Parkway • Dept. NE-4 • St. Paul 1, Minnesota

For more details circle NED-211 D4 on enclosed inquiry slip

COBURN

SLIDING DOOR HARDWARE
smooth, easy operation . . . trouble-free life for both new and remodeling jobs



For additional information, write to Sales & Engineering, 56 Sterling Street, Clinton, Mass. or consult your classified telephone directory.

THE COLORADO FUEL AND IRON CORPORATION—Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo
Chicago • Detroit • New Orleans • New York • Philadelphia

2007

COBURN PRODUCTS
PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CFI

For more details circle NED-212 D4 on enclosed inquiry slip

NEW FREE BOOK
gives factual help on gearmotor applications

Here's a new book on the full line of Westinghouse Gearmotors. It's helpful and informative! Discussed are the many benefits to be derived from applying gearmotors to your speed-reduction jobs. Gives specifications and covers the many gearmotor features that assure long life with minimum maintenance.

Included is a simple procedure for selecting and specifying the correct Westinghouse Gearmotor. There's a section telling of advantages gained through undivided responsibility when you specify Westinghouse.

Ask your local Westinghouse Representative for a copy of B-5645, or drop a line to Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Penna.

J-07334

YOU CAN BE SURE...IF IT'S Westinghouse

For more details circle NED-213 D4 on enclosed inquiry slip

"George"

THE "HAUL-MARK" OF EFFICIENCY

THE TOTE BOX TRUCK

When you're hauling heavily laden tote boxes, human muscles and tendons must be protected . . . and that's where "George" takes over. No box lifting, no strain . . . mechanical leverage easily glides boxes over beveled edge of truck and onto upper set of rollers. Handle hook holds boxes in place. Loaded truck is then safely hauled to destination on set of lower rollers. This almost-automatic truck is low-cost...compact, rugged, safe, for long, steady service life. Metal working plants can use several or many units. Your first "George" will sell you more. Details on request.

LET "George" DO IT

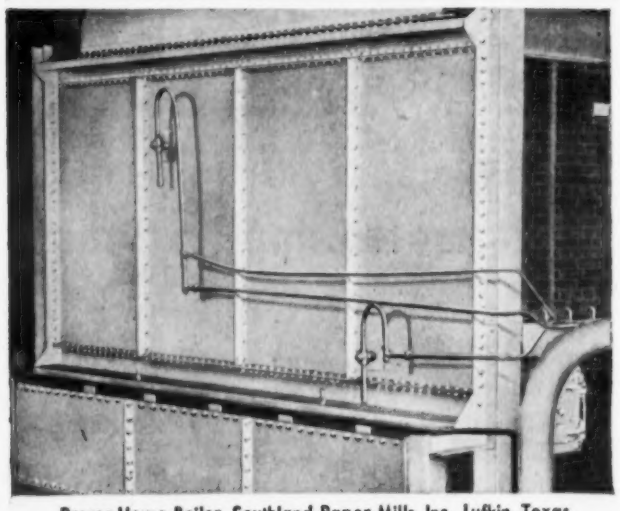
*TRADEMARK

Write for free Folder N

ROLOCK Inc. • Fairfield, Conn.

IRG54B

▲ For more details circle NED-214 D4 on enclosed inquiry slip ▲



Power House Boiler, Southland Paper Mills, Inc., Lufkin, Texas. Aluminum Paint: High Heat Aluminum, Napko Paint & Varnish, Houston, Texas.

AFTER 36 MONTHS ON THIS BOILER ALUMINUM PAINT SHOWED:

NO DISCOLORATION • NO BLISTERING NO FLAKING • NO BURNING OFF

Just one coat of aluminum paint! That's all it took to protect this boiler front for 36 months (when photo was taken) and more. Here is a truly remarkable story of aluminum paint's endurance and toughness —after 3 years, no discoloration, no blistering, no flaking or burning off. Remember too, aluminum paint acts as an insulator under these conditions—reduces heat loss, keeps boiler rooms cooler.

Alcoa does not make paint . . . but ALCOA Aluminum Pigments are used in *more* aluminum paints than any other brand. ALCOA's co-operation with paint manufacturers has made possible many special formulas designed to solve your toughest problem. Aluminum paint offers the utmost in brightness and protection.

Maybe you've got a "hot-spot" where both good appearance and protection are desired. Ask your paint dealer about specially formulated aluminum paints—or write us. We'll be glad to recommend a suitable aluminum paint for your job.

FREE booklet, *Painting With Aluminum,* is yours on request. Fill in the handy coupon:

Paint Service Bureau, Aluminum Company of America
1788-D Alcoa Building, Pittsburgh 19, Pa.

Name_____
Company_____
Address_____
City_____ Zone____ State____

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

▲ For more details circle NED-215 D4 on enclosed inquiry slip ▲

PORTABLE COIN COUNTER
equipped with carrying handle

Portable coin counter weighs 14½ lb and is equipped with a carrying handle. It counts pennies, nickels, dimes and quarters and packages them for bank deposit 15 times faster than possible by hand methods. Counter is completely accurate and has a single adjusting knob which sets it for counting. If coins are being packaged, a second knob is turned to the number of coins per pack and coin flow and count automatically shut off when stipulated number of coins have been packaged. Set-up takes as little as 5 seconds. Made by **Klopp Engineering, Inc.,** 35553 Schoolcraft Rd., Livonia, Mich.

▲ For more details circle NED-216 D4 on enclosed inquiry slip ▲

PASTE SOLDER
use requires no tinning

Metal powder in Tinol paste form solder is held in permanent suspension in an active flux which quickly removes metal oxides, grease and dirt, eliminating the need for precleaning. Application is by brushing onto the surface. Improved product contains no acid and will tin all metals except aluminum. Made by **American Solder & Flux Co.,** 2160 E. Norris St., Philadelphia 25, Pa.

▲ For more details circle NED-217 D4 on enclosed inquiry slip ▲

SPEED CONTROLS
for shaded-pole motors

Speed controls of the type widely used on air conditioning units, ventilating fans and heaters are designed for shaded-pole motors up to 220 v, 60 cycles ac and motor currents up to 3 amp. Units eliminate magnetic noises and, in most cases, provide low, medium and high speeds. They are produced to required speeds of particular unit to be controlled and are available for mounting into existing outlet boxes, or for flush, wall, and rear-of-panel mounting. Controls operate within UL temperature rise allowances. Made by **Curtis Development & Mfg. Co.,** 3266 N. 33rd St., Milwaukee 16, Wis.

▲ For more details circle NED-218 D4 on enclosed inquiry slip ▲

They go on FASTER and stay on LONGER!

PIC STEEL UNIONS for 150# Service

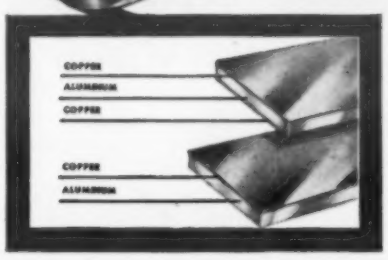
One reason you should get hold of Pics — you *can* get hold of them! Ends are uniformly flat sided to accommodate open end wrenches — and strong (of heavy steel pipe coupling stock). *2nd reason:* Pics look fine teamed up with original equipment (they're bright, good looking). *Third,* Pics are 100% zinc plated to minimize rust. *Fourth,* Pics have a special wedge type bronze seat for positive closure. *Fifth,* they cost less than a galvanized, no more than a black malleable union.

Write for FREE Samples

DART UNION COMPANY
132 Thurbers Avenue, Providence 5, R.I.
The Fairbanks Co. — Distributors
Boston • New York • Pittsburgh • Rome, Ga.

▲ For more details circle NED-219 D4 on enclosed inquiry slip ▲

GENERAL PLATE
ALCUPLATE*
(COPPER ON ALUMINUM)
Cut Costs 15 to 30%



ALCUPLATE Plus Features
- High Electrical Conductivity
- Excellent Heat Dissipation
- Soft-Soldering Surfaces
- Easy Fabrication
- Light Weight

Manufacturers of various products are reducing costs by 15 to 30% or more over an equal area of copper or brass with General Plate ALCUPLATE . . . Copper clad on one or both sides of aluminum.

Here's how ALCUPLATE saves — by permanently bonding a thin layer of copper to thicker less expensive aluminum. You get solid copper performance at a lower cost over solid copper. This combination has practically the same physical and electrical properties as copper plus the light weight of aluminum.

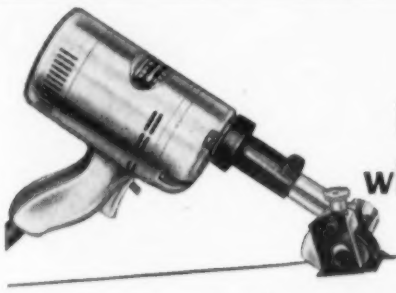
ALCUPLATE can be fabricated by stamping, drawing, spinning, and forming. Its malleability permits its use in the manufacture of many parts from work-hardened rather than annealed or dead soft materials. It is widely used for heat transfer units, electronic chassis, component case and electrical terminals.

ALCUPLATE is available in coils and flat cut lengths, copper clad on one or both sides of aluminum, 1/16" thick x 13" wide and under.

Technical Data Bulletin No. 702C gives full details. Write for a copy today.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
84 FOREST STREET, ATTLEBORO, MASS.

▲ For more details circle NED-220 D4 on enclosed inquiry slip ▲



the cut is finished when you're finished cutting

Save time and money with a KETT Panel Cutting Saw. Just saw and job's finished. KETT Saw leaves smooth, milled edge that needs no finishing. Specially designed lead guide makes contour sawing quick and easy too. Start anywhere without drilling. Cut to any desired depth through most any kind of sheet material . . . mild steel up to 12 gauge, aluminum to 3/16", soft rigid materials up to ½". Your electric or pneumatic drill motor can power the KETT Saw. Write for Catalog E-16.

KETT PANEL CUTTING SAW

. . . . no drilling!
. . . no sanding!
. . . no filing!
. . . no deburring!

THE KETT TOOL COMPANY • 5 East Third St., Cincinnati 2, Ohio

▲ For more details circle NED-221 D4 on enclosed inquiry slip ▲

TEMCO® HOT PLATE
for heavy duty service in the factory or laboratory

TYPE 2600 . . . 9" SQUARE

Here's another new model in the wide line of highly dependable TEMCO hot plates. It is designed especially to stand *hard use* for prolonged periods. Built with extra strength to support heavy loads . . . smooth cast iron top plate ideal for all types of work. Nickel-chromium alloy heating element embedded in a refractory plate of high thermal conductivity. Well ventilated for efficient, trouble-free operation. 4-heat control: L-400°; LM-535°; M-710°; H-930°F. (without load). Two models for 115V and 230V a-c operation. 9" square, 6" high. $33.50. Write for data and name of nearest dealer.

THERMO ELECTRIC MANUFACTURING CO.
484 HUFF STREET, DUBUQUE, IOWA

▲ For more details circle NED-222 D4 on enclosed inquiry slip ▲

These new insulated closure units are available in a wide range of sizes to meet every individual requirement. Designed for smart modern appearance as well as weather and watertight service, Overbeke-Kain access doors can be used on transformer vaults, weatherproof rooms, marine bulkheads, test rooms and similar applications. A readily adjusted or replaced neoprene rubber gasketing assures a positive seal at all times.

Standard units are all welded steel construction. Stainless steel, aluminum, or other noncorrosive materials are also available.

the Overbeke-Kain company

Write today for Bulletin 784 for complete information.

20979 Aurora Rd. • Bedford, Ohio

1849-OK

▲ For more details circle NED-223 D4 on enclosed inquiry slip ▲

FASTER, LOWER COST, BETTER Pipe Identification with

Brady Pressure-Sensitive Markers

You also get NEW BLUE STREAK* RELEASE COATING

Positively eliminates tugging, twisting, tearing, distortion. Markers come right off the card for fastest peel-to-apply time ever!

*(TM)

It's more efficient, safer, thriftier to mark *what* flows *where*—with Brady Pressure-Sensitive Pipe Markers. Off dispenser card in a hurry—on the pipe to *stay* and be *seen* . . . for real savings in material cost and application time. *Background color and legend-overprint combinations meet A.S.A. Standard A-13.* And Brady Markers are Silicone-coated to stay clean, highly visible. A wide assortment of standard markers—or we'll make any kind, with any legend, to your exact order! For *free* samples, useful literature, write—

W. H. BRADY COMPANY

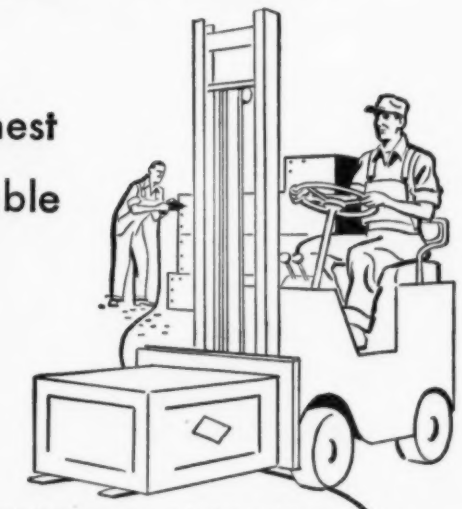
704 W. Glendale Ave., Milwaukee 12, Wis.

BRADY NO. 1 NAME • NO. 1 SOURCE *Pressure-Sensitive Industrial Products*

▲ For more details circle NED-224 D4 on enclosed inquiry slip ▲

SECURITYFLEX

the toughest portable cord



Securityflex's heavy neoprene jacket resists water, oil, crushing and abrasion. As a result —Securityflex* lasts longer, increases the use of fine tools and saves you money by requiring fewer replacements.

Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

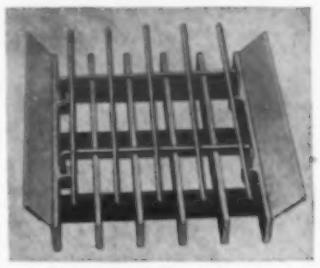
52426

the right cable for the job ANACONDA® WIRE AND CABLE

®Trademark

▲ For more details circle NED-225 D4 on enclosed inquiry slip ▲

MAGNETIC GRATE SEPARATOR for trapping tramp iron particles



Magnetic grate placed in hopper throats or floor openings will trap small tramp iron particles, preventing machinery damage or product contamination. Grate consists of a wire grid with horizontal rods placed between highly saturated Alnico No. 6 magnetized bars. Horizontal rods deflect free-flowing material into streams which wipe the magnetized bars. Device also prevents large debris of all kinds from passing through. It is built in sizes from 2 x 4 ft up to 6 or 8 ft square. Special sizes and shapes can be built. Made by **Homer Mfg. Co.,** Dept. 124, Lima, O.

▲ For more details circle NED-226 D4 on enclosed inquiry slip ▲

DETERGENT-DISINFECTANT is nonirritating and nonstaining

A compatible synthetic detergent is combined with iodine in Showersan disinfectant for industrial and institutional use. Formulation renders iodine nonirritating and nonstaining. Product will prevent spread of athlete's foot wherever organism may be exposed to human touch, as on walls, floors, fixtures and in shower rooms. Detergent action makes it an effective cleanser that will penetrate cracks and crevices to clean and sanitize in one operation. Fading of yellow-brown iodine color after prolonged usage warns that germicidal properties are becoming dissipated. Formulated by **West Disinfecting Co.,** Dept. DE, 42-16 West St., Long Island City 1, N. Y.

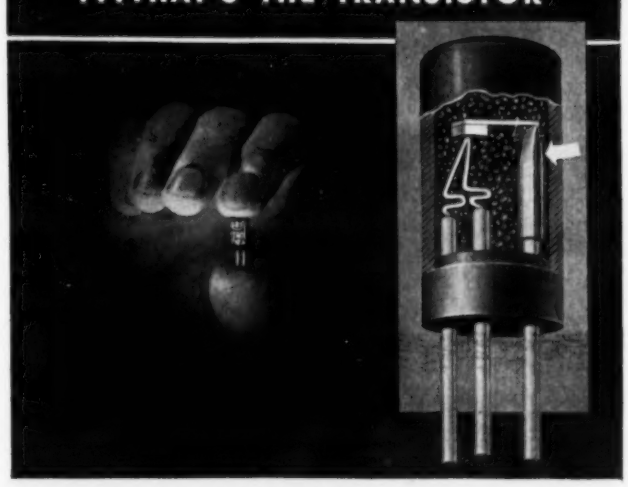
▲ For more details circle NED-227 D4 on enclosed inquiry slip ▲

PHOTOELECTRIC LIGHT SWITCH sensitive to 0.5 candlepower

Sensitivity to light of this plug-in type Lumatrol photoelectric light switch is more than 0.5 candlepower. Unit features time delay circuit which provides two minutes lag between exposure to light and actuation of light circuit. This prevents fixtures or light systems from being switched off by beams from passing cars, flashlights or landing lights of aircraft. Power consumption is extremely small both during day and night. Unit measures 4-in. diameter by 5 in. high and weighs 1½ lb. Weatherproof translucent case provides sensitivity to light from all directions. Made by **Micro Balancing, Inc.,** Herricks Rd., Garden City Park, L. I., N. Y.

▲ For more details circle NED-228 D4 on enclosed inquiry slip ▲

SMALL TUBING—BIG NEWS ...THAT'S THE TRANSISTOR



Top news in radio and television is the Transistor—possible successor to many vacuum tubes.

The Transistor shown above is made by CBS-Hytron, division of Columbia Broadcasting System, Inc. The L-shaped crystal support is formed from Superior seamless nickel tubing. It's .032" I.D., .003" wall, .193" long with a 90° bend. CBS-Hytron relies upon Superior close tolerances and formability for this fussy small-tube application. Why don't you? Superior Tube Company, 2018 Germantown Ave., Norristown, Pa.

All analyses .010" to ⅝" O.D.
Certain analyses in Light Walls up to 2½"

Superior THE BIG NAME IN SMALL TUBING

▲ For more details circle NED-229 D4 on enclosed inquiry slip ▲

BETTCHER MANUFACTURING CORPORATION . . .

says PHILLIPS degreasing
★ speeds up production
★ cuts overall production costs
★ gives more efficient cleaning

Phillips Model 84 degreaser gives fast, efficient cleaning in the Bettcher plant

PHILLIPS VAPOR DEGREASERS

- Higher operating temperature, greater capacity.
- No rinse, blast or drying operations.
- Power consumption only 70% in full production.
- Sizes, types for every need.
- Accurate, economical, safe solvent control.

Bettcher Manufacturing Corporation of Cleveland, Ohio has found that Phillips degreasing is vitally important in keeping costs low. Two Phillips batch type degreasers plus Phillsolv (stabilized and inhibited) are used to give fast, efficient cleaning of conversion heater parts. As a result, cleaning costs have been reduced 50% by this modern Phillips method. Parts are cleaner too, making possible further savings in finishing.

This is how the Phillips system helps get more profitable production. No matter what your own cleaning needs are, there is a Phillips unit to fit. Check with Phillips today for metal cleaning that cuts costs and improves cleaning at the same time.

SEND FOR THIS CATALOG

Complete information kit. Details on sizes, styles, installation. Illustrated bulletin and vapor degreasing handbook.

Phillips MANUFACTURING COMPANY 3463 Touhy Avenue • Chicago 45, Illinois
Engineered Metal Cleaning Equipment

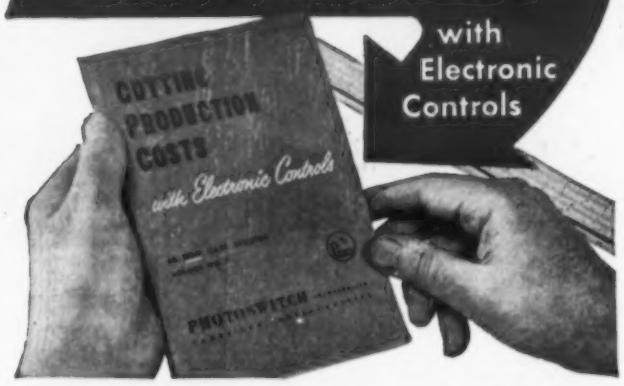
▲ For more details circle NED-230 D4 on enclosed inquiry slip ▲

MERRILL MATERIALS HANDLING DEVICES

MERRILL BROTHERS
56-13 ARNOLD AVENUE
MASPETH, N. Y.

▲ For more details circle NED-231 D4 on enclosed inquiry slip ▲

46 tested ways to SAVE MONEY with Electronic Controls



A completely revised edition of the handbook that has become the "bible" of electronic control for thousands of engineers and production executives.

Newly edited, with 46 new case studies showing how standard packaged electronic controls have solved many industrial problems you're likely to meet. It explains clearly and factually, without hocus-pocus, tested ideas for achieving new efficiency through "Electron-eered" counting, weighing, measuring, timing and cycling.

Send for your FREE copy now!

Photoswitch Incorporated
Dept PS-4, 77 Broadway, Cambridge 42, Mass.

▲ For more details circle **NED-232 D4** on enclosed inquiry slip ▲

NEW Vu-O-Matic ROTARY STAND

8-TRAY UNIT NO. 8116-E

Time and space-saving positioning and storage of all small production, service and maintenance parts . . .

- Stores 2 to 4 times more small parts than drawers or bins
- Protects parts from dirt and damage
- Speeds servicing, maintenance and production
- Glass jars and revolving feature save time locating parts
- Simplifies stock control . . . inventory can be taken by weight count

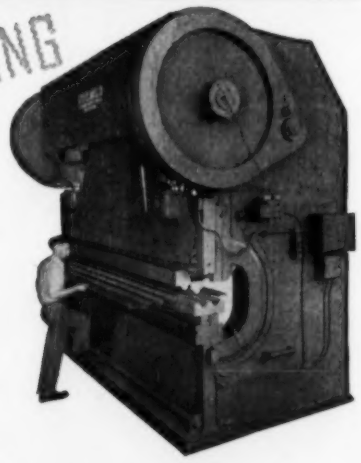
Gaining wide acceptance as a time and space saver in factories, utilities, garages and shops everywhere.

Available in 8-, 5- and 3-tray standard units and special combinations . . with 4-, 8-, 16- and 32-ounce jars. For more details request Folder MH-810. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

▲ For more details circle **NED-233 D4** on enclosed inquiry slip ▲

CORRUGATING Fast and Easy



Large corrugations are made singly and smaller corrugations several at a time with Steelweld Presses. This work can be done to hairline accuracy. With proper dies the corrugated metal will not curl; the corrugation tops will lie in a flat plane.
The press illustrated will corrugate metal in lengths to 10 feet between housings of machine. Other Steelwelds in sizes to 750 tons will handle lengths to 20 feet.

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6634 East 281st St., Wickliffe, Ohio

STEELWELD PRESSES

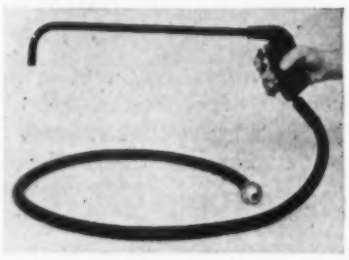
▲ For more details circle **NED-234 D4** on enclosed inquiry slip ▲

HIGH TEMPERATURE SOLENOIDS operate at up to 600° F

High temperature direct current solenoids are designed to operate continuously at coil temperatures from −85 to 500° F, and can be used intermittently at coil temperatures up to 600° F. They are suitable for mounting in hot locations or for operating valves in the control of hot gases and fluids. They meet applicable requirements of specification MIL-S-4040A, and withstand severe vibration. Made by **G. W. Lisk Co.**, 28 South St., Clifton Springs, N. Y.

▲ For more details circle **NED-235 D4** on enclosed inquiry slip ▲

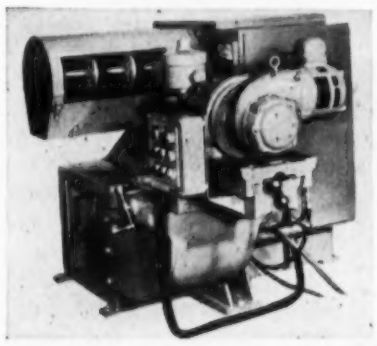
SPRAYING NOZZLE available from 2½ to 5-ft long



Long spray nozzle can be furnished in lengths from 2½ to 5 ft. Type illustrated produces a very fine spray and is used for treating permanent molds with oil. Other applications include blackening molds, cleaning generators and machinery and other maintenance work. Weights vary from 1½ to 2¾ lb. Made by **Jas. A. Murphy & Co.**, Dept. N, 1421 High St., Hamilton, O.

▲ For more details circle **NED-236 D4** on enclosed inquiry slip ▲

POWER BRUSHING MACHINE for blending surfaces & burr removal



Designed to handle parts weighing up to 100 lb, model 4-L3 power brushing machine is semi-automatic in operation and can be used with either metallic or nonmetallic components. A typical job where it can increase work output is in the production deburring of large gears. Operator's function is in loading and unloading the machine. Brushing cycle time and other working cycle variables are preset at a central control panel. Work holding assembly is independently driven by a ¾-hp gear head motor and can be set in any desired compound angle. An auxiliary brushing head is provided in addition to the main unit. Made by **Osborn Mfg. Co.**, 5403 Hamilton Ave., Cleveland 14, O.

▲ For more details circle **NED-237 D4** on enclosed inquiry slip ▲

NEW

Weld-Bilt automatic CONVEYOR-LIFT ELEVATORS speed your production flow!

One of three Weld-Bilt elevators in the automatic plant of a leading Television Manufacturer

Weld-Bilt Products Include:

Here's a great time and man-saver where production flow demands *multiple-level* conveyor systems . . . It's a new Weld-Bilt development in AUTOMATIC Conveyor-Lift Elevators. Lifts or lowers packages or parts from one level to another, automatically selecting and lifting certain packages, passing others, if desired. Power rollers on lifting platform move load off in any required direction. All this is done without manual attention, to keep your production moving swiftly, without interruption.

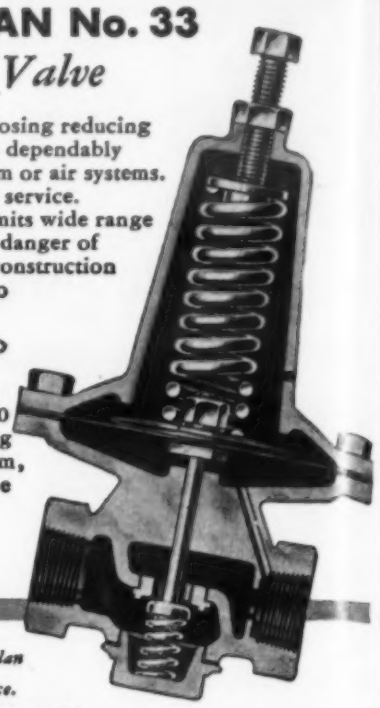
The Weld-Bilt Automatic Conveyor-Lift can be built to any designed capacity, any height, with controls to handle any situation or need. Write today for details — or the services of a Weld-Bilt materials handling engineer. You'll save money, time, labor. Let us prove it!

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 WATER STREET, WEST BEND, WISCONSIN

▲ For more details circle **NED-238 D4** on enclosed inquiry slip ▲

For Small Steam or Air Lines

MASONEILAN No. 33 *Reducing Valve*



An accurate, tight-closing reducing valve. Keeps pressures dependably constant on small steam or air systems. Easy to install, set and service. Extra-long spring permits wide range of adjustment with no danger of overstressing. Sturdy construction reduces maintenance to a minimum.

Initial pressure up to 200 lbs. reduced to any pressure from 2-20 lbs., 20-60 lbs., 60-100 lbs. Stainless Steel Plug and Seat Ring for Steam, Composition Cone-type insert for Air. Sizes ⅛" to ¾".

MASONEILAN

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN REGULATOR CO.
1189 ADAMS STREET, BOSTON 24, MASS., U. S. A.

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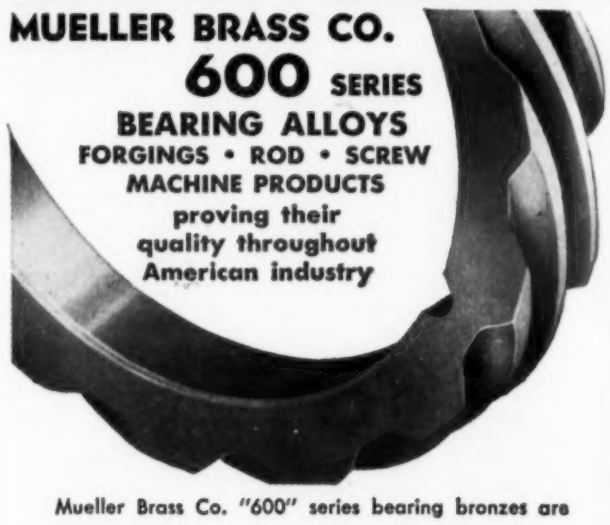
MUELLER BRASS CO. 600 SERIES BEARING ALLOYS



FORGINGS • ROD • SCREW MACHINE PRODUCTS proving their quality throughout American industry

Mueller Brass Co. "600" series bearing bronzes are lightweight, high strength copper-zinc base alloys with excellent bearing and mechanical properties, non-galling and non-seizing characteristics and good resistance to corrosion. There are six members of the "600" series . . . one for every purpose. Write today for complete information about the MUELLER BRASS CO. "600" series alloys for forgings, rod or screw machine products.

MUELLER BRASS CO. 119-A
PORT HURON 27, MICHIGAN

▲ For more details circle **NED-240 D4** on enclosed inquiry slip ▲

RIGHT DOWN TO THE SMALLEST SIZE

Every **BOKUM BORING TOOL** conforms to a uniform design characteristic of the Bokum line . . . recognized throughout industry for its unmatched quality.

For top performance you can always depend on BOKUM ORIGINAL BORING TOOLS.

This cutting head style A for through-boring

This cutting head style B for bottoming and facing

This cutting head style C for internal threading

Available in both high speed steel, carbide-tipped, and solid carbide.

Two basic formulas contribute to the outstanding performance of Bokum Tools: 1) the mathematical formula of the design and 2) that of the material.

Use a Bokum Tool and you'll see the difference —Send for catalog.

Write to Dept. T for catalog

TRADE MARK REG. U. S. PAT. OFF.

BOKUM TOOL COMPANY • 14775 WILDEMERE, DETROIT 38, MICHIGAN

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"John Crane" *Plastic Lead Seal is the most economical all-purpose sealing compound for pipe joints, studs and gaskets—*because you use less to get a better seal.* PLS seals for the life of the connection, yet never hardens, allowing joints to be easily broken after years of service.

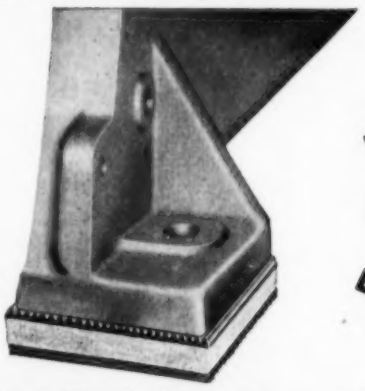
PLS prevents galling . . . is insoluble in water, gas, steam, many chemicals and all petroleum products. Use it for all services . . . low or high pressure applications up to 6000 psi. . . . temperatures to 500°F. Carries the Underwriters' seal of approval.

Prove to yourself that it takes less PLS to give a perfect seal. Send for a generous free sample. Crane Packing Company, 1811 Cuyler Avenue, Chicago 13, Illinois.

JOHN CRANE CRANE PACKING COMPANY

For more details circle **NED-242 D4** on enclosed inquiry slip

It's SIMPLE To Control VIBRATION and NOISE with Elasto-Rib...



NO BOLTING

NO CEMENTING

LOW COST

Elasto-Rib effectively stops transmission of vibration and noise by utilizing the elastic and damping properties of both cork and rubber.

It is fast and easy to install. For most machine applications, no bolts, lag screws or cement are required. Sheets 24" x 36" can be sawed or cut to size as needed.

New, illustrated booklet tells all about Elasto-Rib and how to install it. Ask for ER-701 and free sample.

THE KORFUND COMPANY, INC.

KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK

48-35P Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

For more details circle **NED-243 D4** on enclosed inquiry slip

HYDRECO PUMP

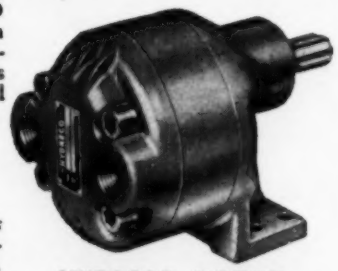
Get the Facts on **HYDRECO** *Oil Power!*

WHAT KEEPS HYDRAULIC PUMPS AND MOTORS "ON THE JOB" DAY IN AND DAY OUT?...See Bulletin 139!

It takes more than pressures, speeds and capacities to keep equipment performing dependably, economically and when you want it. The invisible factors that do not appear in the specifications make the deciding difference in hydraulic controls. It is these PLUS factors that keep HYDRECO PUMPS and MOTORS on America's leading hydraulically-equipped Materials Handling, Earth Moving and Industrial Machinery.

Write—

Bulletin No. 139 has the facts you want to know about HYDRECO Pumps and Motors.



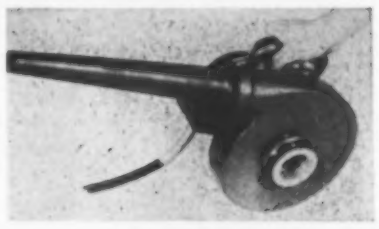
HYDRECO MOTOR

HYDRECO DIVISION
THE NEW YORK AIR BRAKE COMPANY

1109 EAST 222nd STREET • CLEVELAND 17 • OHIO

For more details circle **NED-244 D4** on enclosed inquiry slip

PORTABLE ELECTRIC BLOWER
improved unit has heavy-duty motor



Designed to speed cleaning of electric motors, machines, switchboards and other equipment, model NA portable electric blower features a heavy duty 1-hp motor. This improvement has been made without increase in overall weight of 14 lb or in size. Made by **Ace Co.**, 118 W. Washington St., Ocala, Fla.

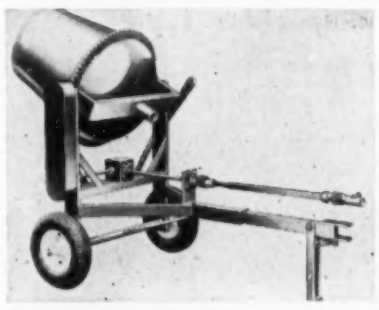
For more details circle **NED-245 D4** on enclosed inquiry slip

SCREW MACHINE
machines both front and back of work

Drilling, reaming, tapping, threading, forming or chamfering can be done on both front and back of work pieces in one complete cycle by the Double-Matic screw machine. Unit utilizes tool holding turret revolving on an axis parallel to spindle. Stock is fed through, clamped and machined on front side. Final turret position is occupied by live spindle which contains collet and runs at same speed as main drive spindle. This live spindle grips piece, supports it during cut-off and continues to hold it. Then, while turret tools machine next piece, back end is machined by tools mounted on headstock. Work capacity is 0 to 1-in. diameter to 4½-in. length. Spindle speeds range from 400 to 6000 rpm. Motor is rated 3 hp at 1800 rpm. Made by **Porter-McLeod Machine Tool Co.**, Hatfield, Mass.

For more details circle **NED-246 D4** on enclosed inquiry slip

CONCRETE MIXER
operated by tractor power take-off



The 7½-cu ft drum of the Tractormix concrete mixer will deliver from 3 to 4 cu ft of mixed concrete per minute. Mixer derives its power from the power take-off of a tractor through a telescoping shaft which can be furnished to fit all standard tractors. Self-locking jack and a grease sealed ball bearing transmission with gears running in oil are features. Steel disk roller bearing wheels with 4.00 x 8-in. pneumatic tires are standard, with 5.00 x 16-in. roller bearing steel disk wheels being optional. Drum cover is available for clamping over drum opening for dry mixing of various materials. Made by **United States Forge & Foundry Co.**, Dept. TMX, Pulaski, N. Y.

For more details circle **NED-247 D4** on enclosed inquiry slip

MILL-ROSE *Twisted Wire Brushes offer a better way!*

These twisted wire brushes are only a few of dozens MILL-ROSE has specially designed. If our catalog of 56 standard double and single spiral brushes does not include the brush you need — we'll design one for you. Write for Catalog EQ-54

HIGH PRECISION MILL-ROSE INDUSTRIAL BRUSHES

THE MILL-ROSE CO.
1985 East 59th Street
Cleveland 3, Ohio

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To save money on crane runway maintenance

● This important booklet describes our three Special Crane Rail Sections, which were designed to give longer life under heavy wheel loads. And it shows a special technique of tight-joint-assembly which, when combined with a new conception of "floating rail" fastening, will result in fewer delays in crane operation and less costly crane and runway maintenance.

Don't delay, send for your copy today. Just write to United States Steel Corporation, Room 4293, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS SPECIAL CRANE RAIL SECTIONS

UNITED STATES STEEL

For more details circle **NED-249 D4** on enclosed inquiry slip

How a 'Sexauer' Easy-Tite faucet washer costing pennies can save you $115.22 a year!

A tiny, 1/32" faucet leak wastes 95,040 gallons—*$24.14* worth*—of water yearly.

Hot water leakage is even costlier . . . Fuel waste adds upward to *$91.08*** more to the loss. Total down the drain: *$115.22.*

And this is the dollar loss caused by only *one* pinpoint leak!

Fuel Waste		Water Waste	Total Waste
Oil (792 gals.)	**$91.08	$24.14	$115.22
Coal (9,879 lbs.)	88.91	24.14	113.05
Gas (84,411 cu. ft.)	84.81	24.14	108.95

*Water costs (figured at $1.90 for 1,000 cu. ft.) authenticated by Hackensack Water Co. **Fuel costs authenticated by American Gas Association.

Save money; cut costs; stop leaks with dependable 'Sexauer' Easy-Tite faucet washers.

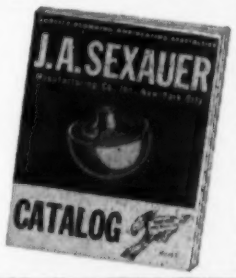
Built like a tire with Fiberglas reinforcement

Easy-Tite faucet washers are made of a special du Pont product, instead of rubber, and reinforced with Fiberglas. The result is a washer that resists the closing squeeze that splits and mushes ordinary washers. And Easy-Tites withstand destructive heat (up to 300° F. by test). These features explain why *'Sexauer' Easy-Tites outwear ordinary faucet washers 6 to 1!*

By avoiding labor on those 5 additional repairs, Easy-Tites cut today's high maintenance costs 83⅓%! But Easy-Tites not only save water, fuel, labor; they also prolong the life of expensive fixtures.

FREE CATALOG—Easy-Tite faucet washers are just part of the line of over 3000 'Sexauer' Triple-Wear plumbing repairs parts and patented precision tools.

Get complete information on Easy-Tites and other cost-cutting 'Sexauer' materials. Send for our FREE, new 118 page Catalog H. Fill in and mail the coupon today.



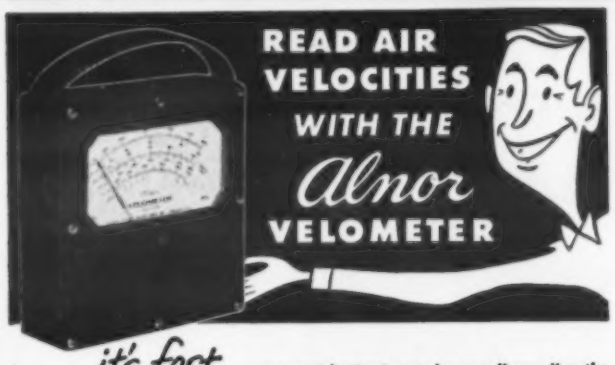
J. A. Sexauer Mfg. Co., Inc. Dept. AU-44
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your FREE, new 118 page Catalog H.*

My name.....Title.....
Company or Institution.....
Street.....
City.....Zone.....State.....

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle **NED-250 D4** on enclosed inquiry slip



it's fast . . . you get instant, precise readings directly from scale face . . . no need for reference charts or calculations. Measure air flow through ducts, grilles, motors, spray booths, etc., or in the open.

it's accurate . . . brings laboratory standards of air velocity measurement to the production line, mine, mill . . . anywhere. Needs no special care or handling . . . anyone can use it and get accurate results.

it's portable . . . completely self-contained, hand-held. Rugged construction and sturdy case protect the Velometer from usual hazards of portable use. Available in scale ranges to 24,000 f.p.m. Wide selection of jets and fittings assures adaptability of Alnor Velometer to your application. Get full details and prices, write for Bulletin 2448-G. Illinois Testing Laboratories, Inc., Rm. 529, 420 N. La Salle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-251 D4 on enclosed inquiry slip

Typical packaged-materials-handling installation. Farquhar Conveyors stack, pile, store or move packaged materials from floor to floor faster and easier . . . make costly elevators unnecessary . . . cut your materials-handling costs to the bone.

Cement, fertilizer, feeds, lime, and many other bagged materials move rapidly and continuously on Farquhar Conveyors the world over.

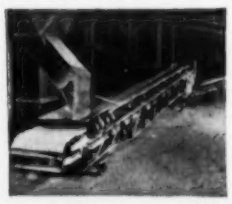
You Name It... We'll Move It!

Specify Farquhar for *your* Conveyor Problems!

SURE, there are probably some things that Farquhar Conveyors can't handle—like elephants, or battleships. But by and large, no matter what your materials-handling problem, Farquhar Conveyors can solve it. AND solve it at the *lowest* possible initial cost, *greatest* possible efficiency, and *smallest* possible unkeep!

Big claims? Sure! But Farquhar can back them up! Case histories in our files prove that Farquhar Conveyors are designed better, stand up better in use, and deliver greater efficiency and versatility. If you'd like to read about some of these success stories, mail the coupon below for your free copy of "Owners Report."

Your particular problem may be similar or slightly or radically different from those in this booklet. Regardless, the same Farquhar experience, know-how and engineering skill that solved problems for people like you all over the world . . . can solve *yours!* A note on your letterhead will bring a Farquhar sales-engineer on the run—at no obligation, of course!



Bulk materials — chemicals, sand, stone, etc.—present no problem when they're handled by Farquhar Conveyors.

A complete line of Farquhar Roll-Free roller and wheel conveyors let gravity do the work for you!

FREE! "Owners Report"—a booklet of case histories of money-saving conveyor installations.

OLIVER Farquhar CONVEYORS

POWER-BELT AND GRAVITY CONVEYORS

THE OLIVER CORPORATION
A. B. Farquhar Division
Conveyor Dept. A-04, York, Pa.

Gentlemen:
Please send me my free copy of "Owners Report."

Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-252 D4 on enclosed inquiry slip

LIMIT SWITCH
has 11 contact operating sequences

Versatile machine tool limit switch is easily adjusted with a screwdriver to obtain any one of 11 different contact operating sequences. Designated Class 9007 type T, it is also available with a variety of operating lever arms which can be mounted in any angular position. Although only a small travel is required for operation, approximately 80 degrees overtravel is provided in both directions. Diecast unit is neoprene gasketed and is water, oil and dust-tight. Seven types of baseplate permit variety of mounting positions. Made by **Square D Co.**, 4045 N. Richards St., Milwaukee 12, Wis.

For more details circle NED-253 D4 on enclosed inquiry slip

METAL SURFACE CLEANER
for ferrous, nonferrous metals

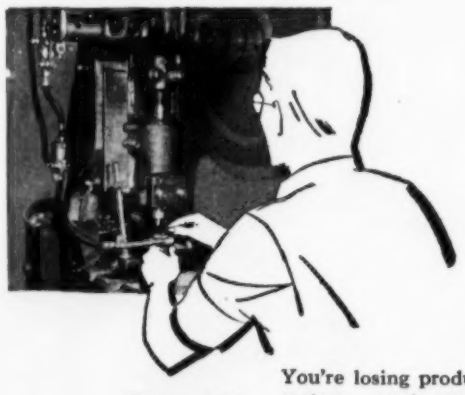
A combination of an alkaline and an efficacious emulsion cleaner, K-A-T metal surface cleaner can be used for removing soil from both ferrous and nonferrous metals. Formula can be used in hard water areas without formation of normal hard water precipitates. Other characteristics are imparted corrosion resistance, minimum surface etching and deposition of a protective film which is compatible with paint solvents. Use is at room temperature. Made by **Klem Chemicals, Inc.**, 14417 Lanson Ave., Dearborn, Mich.

For more details circle NED-254 D4 on enclosed inquiry slip

PLATFORM TRUCK
low lift stand-up rider type

Low lift platform truck is of the stand-up rider type and is available in 2000, 3000 and 4000-lb capacities. Platform sizes can be supplied for any requirement. Platform is raised and lowered hydraulically, and ball and socket steering gives easy handling and good maneuverability. Magnetic controller provides four speeds in both directions, and a time delay switch makes it impossible to jerk the load by starting truck in high gear. Made by **Wright-Hibbard Industrial Electric Truck Co.**, Station St., Phelps, N. Y.

For more details circle NED-255 D4 on enclosed inquiry slip



Step Up Production and Safety, Too with Schrader Air Ejection

You're losing production when operators must manually unload work from your presses. Extra work takes time, and adds hazards to the job.

A Schrader Air Ejection Set will give your presses—and operators—a new lease on life. Fully automatic, these sets deliver enough air to eject the part, but no more. They are actuated by cams or trippers, and are delivered to you ready to install.

Various sets are available to handle any ejection problem.

Get full details on Schrader Ejection Sets. Write today for the Schrader catalog.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave. Dept. E-39 Brooklyn 38, N. Y.

For more details circle NED-256 D4 on enclosed inquiry slip

Toolroom Favorite:
CONTINENTAL COUNTERBORE SETS

Set No. 1 for Counterboring, Spot-facing, and Countersinking.

CTW

Save time—save money with this wide variety of counterbores, countersinks and pilots, compactly boxed. Continental's Indestructible Drive won't stick, won't break, easily hand-detachable. THREE SETS AVAILABLE, for large or small toolrooms. Order from your local Ex-Cell-O representative—or write to Continental for catalog.

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
Detroit 32, Michigan

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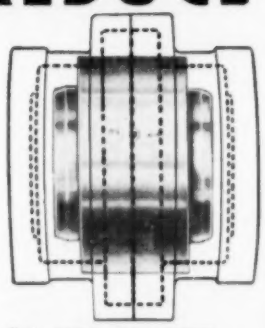
For more details circle NED-257 D4 on enclosed inquiry slip

REDUCE FAILURE



- of shafts
- bearings
- armatures
- couplings

3/5 USUAL SIZE
1/2 USUAL WEIGHT
of flange type with same shaft size, HP capacity

REVOLUTIONARY **Sier-Bath** *Flexible* GEAR COUPLINGS

Smaller, lighter for lower moment of inertia, less wear on equipment, lower power costs, more compact designs. Simpler (only 7 parts) . . . assembled, uncoupled in *seconds.* Stronger, safer . . . one-piece forged steel sleeve transmits the load . . . no nuts, bolts, flanges. Call your Sier-Bath Coupling Distributor or Representative . . . send for CATALOG. *Sier-Bath Gear & Pump Co., 9240 Hudson Blvd., N. Bergen, New Jersey.*

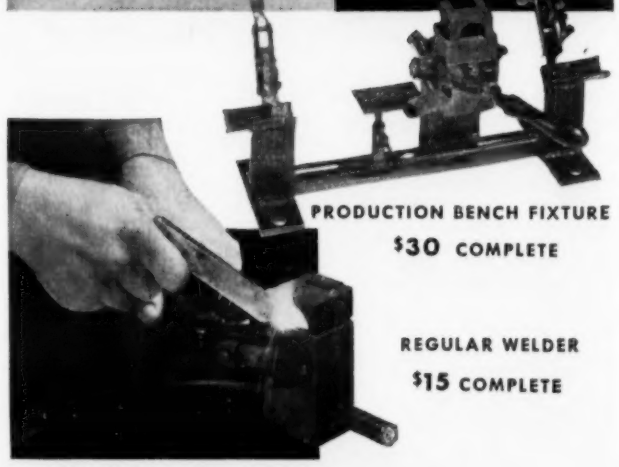
Founded 1905 Member A.G.M.A.

Standard Mill Motor Vertical Shaft Floating Shaft Spacer

Also Manufacturers of Precision Gears and Rotary Pumps

For more details circle NED-258 D4 on enclosed inquiry slip

A CABLE SPLICED IN 10 seconds WITH CADWELD®



PRODUCTION BENCH FIXTURE $30 COMPLETE

REGULAR WELDER $15 COMPLETE

SEND TODAY FOR FREE CADDY CATALOG

GADDY® ARC WELDING ACCESSORY DIV.

ERICO PRODUCTS, Inc.
2070 E. 61st PLACE
CLEVELAND 3, OHIO

For more details circle NED-259 D4 on enclosed inquiry slip

Inspect any hole from .122" up!

WHATEVER THE HOLE CONDITION — whether the hole is deep, shallow, wide or narrow, whether it's tapered, bell-shaped, irregular, or necked — Federal Indicating Gages will check it positively, accurately, and quickly. Our line of Indicating Gages is *complete* and we can recommend a modern gage to exactly fill your needs. Write today for catalog and tell us your requirements. Federal Products Corp., 4174 Eddy Street, Providence 1, R. I.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively

For more details circle NED-260 D4 on enclosed inquiry slip

KEY-CONTROL ELIMINATES Handle Maintenance

THE KEY IS THE HANDLE

• Berger's new Key-Control Industrial Steel Lockers are handle-free. The key is the handle. There are no dials to turn, no locks to misplace, no handle to maintain.

Key-Control lockers give full-time protection to workers' tools, clothing and other personal property. The door *pre-locks* when opened, and locks *automatically* when shut.

Only Berger offers Key-Control Steel Lockers — plus the biggest selection of standard steel lockers. Get all the facts from your Berger representative or write us direct.

REPUBLIC STEEL CORPORATION
BERGER MANUFACTURING DIVISION
1084 Belden Ave., Canton 5, Ohio • Export Dept.: Chrysler Bldg., New York 17, N. Y.

For more details circle NED-261 D4 on enclosed inquiry slip

THE RIGHT BOX CAN DO A JOB FOR YOU

Your product or samples packaged in a sturdy, transparent container . . . one complete, easily handled unit for your salesmen . . .

Lite-TUFF Standard Boxes and Containers of Non-Flam* lightweight plastic made of approved material are no fire hazard. They are available in a wide variety of compartment arrangements. LOW DIE COST ON CUSTOM MADE.

- Very tough—will not crack or shatter in normal use.
- Stainless steel hinges.
- Resistant to most chemicals—samples supplied for tests.
- May be beautifully heat embossed.
- All transparent or color combinations.
- Make your own compartment layout on our PLOT PLAN Sheets.
- State your problem—let us solve it.

Full information and Plot Plan Sheets sent upon request . . . Dept. B4
* Reg. U. S. Pat. Off.

SHOE FORM CO. INC., Auburn, N. Y.

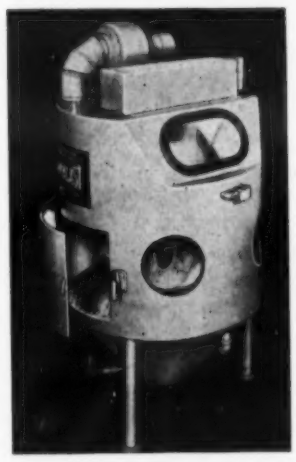
For more details circle NED-262 D4 on enclosed inquiry slip

INDUCTION HEATING UNIT
unit for soldering, brazing, light heat treating has 5 kw output

Single station model LI-5A-1 high frequency induction heating unit has been redesigned to incorporate a heavier sheet steel cabinet which insures minimum radio frequency radiation and complies with FCC regulations. Unit is designed for soldering, brazing and light heat treating applications. It has interior steel partitions to isolate oscillator, power and control components. Checklite indicating lamps are relocated on front to reveal any abnormal operating conditions at any of the protective devices. A temperature-controlled water cooling system minimizes water consumption. Unit is rated at 5 kw continuous output or 284 Btu per minute at an output frequency of approximately 450 kc. An external transfer switch is available for two-station operation. Power input is 230/460 v, single phase, 60 cycles. Made by **Lindberg Engineering Co.**, 2444 W. Hubbard St., Chicago 12, Ill.

For more details circle NED-263 D4 on enclosed inquiry slip

BLAST CLEANING EQUIPMENT
bench model for the small shop uses liquid suspended abrasive



Compact and weighing only 155 lb, the portable bench model Jet Blast cleaning machine employs fine abrasive particles suspended in a liquid to remove rust, scale and foreign deposits from dies, molds, tools and other precision articles without dimensional change. Slurry is picked up by syphon injection and propelled to blast proportions by a high velocity air stream. Matte finish derived is said to increase adherence and bonding qualities of paint, porcelain, rubber and electroplated metals.

Unit is 24 in. diameter and 43 in. high. Its one or two blast guns use from 28 to 42 cfm of air at a pressure of 85 to 100 psi. Liquid capacity is 2 gal and abrasive capacity is 13 lb. Only moving part is the 1/16-hp motor for blower operation. Made by **R. W. Renton & Co.**, 788 Addison Rd., Cleveland 3, O.

For more details circle NED-264 D4 on enclosed inquiry slip

FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-N

For more details circle NED-265 D4 on enclosed inquiry slip

Hanna AIR AND HYDRAULIC Cylinders AND Valves

Here's Power and Control . . . for 101 uses

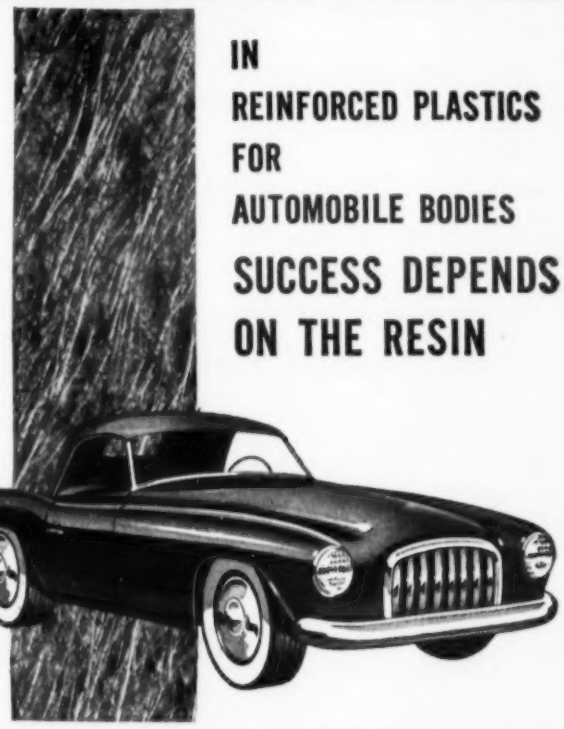
YOU CAN SPEED PRODUCTION, cut costs and simplify the actuation and control of many of your machines and equipment by using the fast, smooth *power of Hanna Cylinders* with the *exacting control of Hanna Valves.*

Hanna Cylinders are available in low pressure models operated by air, oil or water up to 110 p.s.i. and in high pressure hydraulic types operating to 1500 p.s.i., in a range of mounting styles to meet all requirements. There is a complete line of Hanna Valves including hand, foot, solenoid and pilot operated, which provide a wide choice of control.

Write for Bulletins 255 and 256 on Hanna Cylinders.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT — CYLINDERS — VALVES — RIVETER
1759 Elston Avenue • Chicago 22, Illinois

For more details circle NED-266 D4 on enclosed inquiry slip



IN REINFORCED PLASTICS FOR AUTOMOBILE BODIES SUCCESS DEPENDS ON THE RESIN

Designers and fabricators who are studying the application of reinforced plastics to automobiles, trucks, and trailers are advancing in a virtually new industry. They are finding BAKELITE Company an important ally in making the best use of these new materials.

Eleven BAKELITE Polyester Resins are available to meet the varied demands made on reinforced plastics for structural applications. For example, resin BRS-186 imparts exceptional toughness and resistance to impact. Another type, BRS-147, provides outstanding surface finish.

Basically, all reinforced plastics made with BAKELITE Polyester Resins have these important properties:

- **Corrosion resistance**
- **A high strength-weight ratio**
- **Ease of fabrication into large structures**
- **Insulation—both thermal and electrical**
- **Economy due to low-cost tooling, handling ease, and long service life**

The wide variety of BAKELITE Polyester Resins means that reinforced plastics can be closely tailored to the job. To assure success even further, the extensive research and engineering facilities of BAKELITE Company are at the service of both designer and fabricator.

A free booklet giving information about the forms, properties, and uses of BAKELITE Polyester Resins for reinforced plastics is now available. To get your copy, write Dept. UI-53 today.

BAKELITE
TRADE-MARK
POLYESTER RESINS
TRADE MARK
BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.
In Canada: Bakelite Company
Division of Union Carbide Canada Limited
Belleville, Ontario

For more details circle NED-267 D4 on enclosed inquiry slip

SPECIFY Abart SPEED REDUCERS for and SAVE

IMPLICITY
ACCURACY
VERSATILITY
CONOMY

Efficient, durable, compact—ABART Speed Reducers are precision built to (1) give accurate reduction ratios (2) cut your production costs, and (3) provide years of maintenance-free service. Over 75 types and sizes (spur, worm, and combination). Ratings from 1/50 to 168 hp., with ratios up to 10,000 to 1.

Send for free, pocket-size catalog for complete information and engineering data on the ABART line of speed reducers and gearmotors.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears and Speed Reducers • Bishop 2-2524

▲ For more details circle NED-268 D4 on enclosed inquiry slip ▲

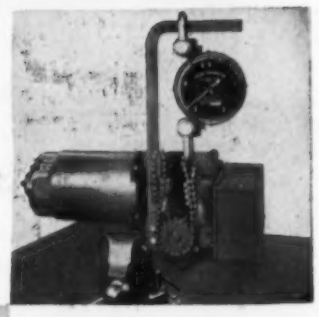
to measure *tension, traction or weight*

do it accurately with

DILLON DYNAMOMETERS!

COST IS NEGLIGIBLE

Rugged, compact, accurate; DILLON DYNAMOMETERS are simple and easy to handle and read.



From simple weighing to intricate torque tests, the DILLON DYNAMOMETER is doing the job with the same unfailing accuracy, versatility and rugged dependability which has made it a "by-word" in industry throughout the world. Your own plant becomes your testing laboratory with a DILLON DYNAMOMETER.

Built to take years of hard, daily use, the DILLON will pay for itself many times over.

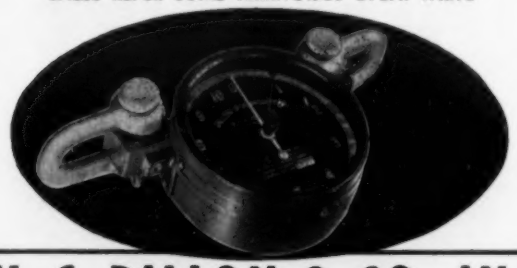
Light: **8 lbs. 4 ozs. (5" dial model.)**

Compact: **8¼" long, 6¼" high, 3" thick.**

Accurate: **Calibrated in Certified Laboratory Testing Machine.**

The DILLON DYNAMOMETER is made in 9 different capacities: 0-500 lbs. up to 0-100,000 lbs. All have max. hand, shackles, safety glass crystal. There are thousands in use today by leading companies all over the world. Write for profusely illustrated Bulletin D-1.

SALES REPS.: SOME TERRITORIES OPEN. WRITE



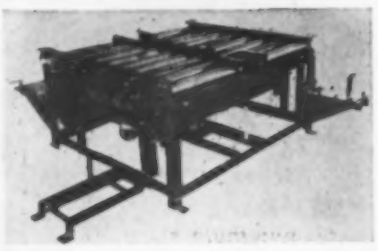
W. C. DILLON & CO., INC.

Precision Instruments for Precision Testing

14620NE KESWICK ST., VAN NUYS (Suburb of Los Angeles), CALIF.

▲ For more details circle NED-269 D4 on enclosed inquiry slip ▲

AUTOMATIC PACKAGE TRANSFER for parallel roller conveyor lines



With parallel live roller conveyor lines, packages can be automatically transferred from one line to the other by means of this transfer station. Transfer is accomplished by actuation of set of V-belt elements that rise to lift carton above rollers while power driven belts carry it over and put it down on adjacent line. Photo-electric or limit switch facilities make up the controls, while air cylinder is utilized to raise and lower cross transfer mechanism. Made by **Alvey Conveyor Mfg. Co.,** 9259 Olive Street Rd., St. Louis 24, Mo.

▲ For more details circle NED-270 D4 on enclosed inquiry slip ▲

ELECTRONIC TOTALIZER counts 10-mv signals of up to 1 kc

Glow-transfer decade counting tubes, for economy of space and power consumption, are used in model 21 electronic totalizer which counts pulse or sine

wave signals of 10 mv or greater at frequencies up to 1 kc. Mounting on standard relay rack 3-in. high by 6-in. deep, unit uses only five thermionic tubes and draws 22 w of 95-135 v, 50-60 cycle ac. Two decade counting tubes are used with six-digit mechanical register to give capacity of 99,999,999. These are rated 10,000 hours. In addition to manual switch, remote start-stop connection is provided for counting over controlled time intervals. For calibration work, instrument can be started and stopped with external electric timer. Made by **Potter Aeronautical Co.,** 85 Academy St., Newark 2, N. J.

▲ For more details circle NED-271 D4 on enclosed inquiry slip ▲

DO YOU KNOW? The Handley-Page Victor with its crescent-shaped wing, the Vickers' Viscount four-engine turbo-prop passenger plane and the Vulcan four-engine delta-wing heavy bomber are pictured in color in 20-minute 16-mm sound film of the Farnborough, England air show held last Fall. Film also provides comprehensive coverage of engine displays and flying exhibitions. Film will be loaned for industrial showings. Write to Geo. A. Starbird, president, Meletron Corp., 952 N. Highland Ave., Los Angeles 36, Calif.

▲ For more details circle NED-272 D4 on enclosed inquiry slip ▲

NEW DEVELOPMENTS *that mean* NEW SAVINGS *in DUST CONTROL*

New synthetic filtration fabrics have extended the economies of Dustube dust control to the handling of hot and/or corrosive gases. This means that the savings in initial and maintenance costs and the high efficiency of Dustube cloth tube type collectors can now be applied to many more dust control problems.

Dustube's new ultra filtration principle permits the collection of even dust you can't see—providing super clean air for a fraction of the cost of other methods.

For any dust or fume control problem, a Dustube Collector provides the highest efficiency at lowest cost. Send today for Catalog No. 372.

American WHEELABRATOR & EQUIPMENT CORP. | 508 S. Byrkit St., Mishawaka, Indiana

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Hear HERE!

Model 211 Floor Booth

Model 602 Wall Booth

LOUDNESS REDUCED 50%*

Inside a Burgess-Manning Acousti-Booth

- The hushed interior of a Burgess-Manning Acousti-Booth provides a quiet, restful place to hear well.
- Light, sturdy construction for ease of moving . . . compact design.
- Doorless construction . . . light, airy, well ventilated.
- Wall and floor models.
- Suited to any noisy location.

** Based on studies by a prominent research organization.*

Write for Bulletin A-124

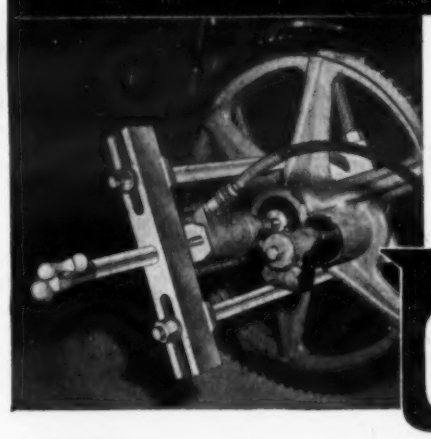
BURGESS-MANNING COMPANY

Architectural Products Division

5970-C Northwest Highway, Chicago 31, Illinois

▲ For more details circle NED-274 D4 on enclosed inquiry slip ▲

PUSH...PULL 75% FASTER 90% EASIER



WITH THE CENTER HOLE

OTC

50 TON HYDRAULIC PULLER

Removes or installs bearings, gears, pinions, shafts, studs, wheels, pulleys, etc.—75% faster and 90% easier. This new OTC 50 ton ram is completely portable (weighs only 45 lbs.)—has remote control pump—interchangeable ram heads—and can be used as a production holding fixture. Also available in 17½ and 30 ton sizes. *Booklet describes complete line and uses of OTC equipment.*

WRITE FOR FREE BOOKLET

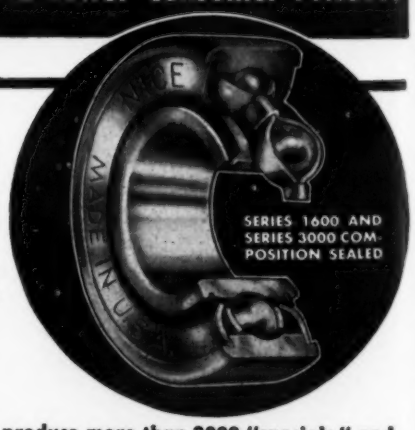
OWATONNA TOOL COMPANY

436 CEDAR STREET • OWATONNA, MINN.

▲ For more details circle NED-275 D4 on enclosed inquiry slip ▲

THE TREND is to Product Improvement & Lower Consumer Prices..

. . . and experienced NICE field men and factory engineers can help you accomplish these important objectives.



NICE is tooled to produce more than 2000 "specials," and more than 750 sizes and types of 25 different catalog standard Series are normally available from stock. Series 1600 (precision) and Series 3000 (unground) are illustrated. They are of the same "precision type" construction and are available shielded, sealed or open.

For complete information on the NICE LINE write for Catalog No. 150.

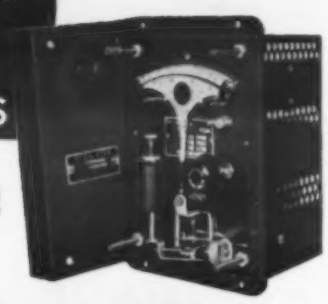
NICE

NICE BALL BEARING CO.

NICETOWN • PHILADELPHIA • PENNSYLVANIA

▲ For more details circle NED-276 D4 on enclosed inquiry slip ▲

Rocking Contact
V-00 & 221
VOLTAGE
REGULATORS



Fast...Accurate Response
ON SMALL GENERATORS

Rocking Contact voltage regulators are available in two types for use on small ac generators with direct-connected exciters — TYPE V-00 for generators to 157 kva maximum at 3600 rpm; TYPE 221 for generators to 438 kva maximum at 3600 rpm.

Rocking Contact voltage regulators operate directly in the exciter field circuit to give fast response to voltage changes. No sluggish, time-wasting relays. No vibrating or sliding contacts to wear out. A small movement of the *Rocking Contact* sector over a curved commutator covers the entire regulating range

Write for Bulletin 14B6143A, Allis-Chalmers, Milwaukee 1, Wis.
A-4048

Rocking Contact is an Allis-Chalmers trademark.

Movement of a fraction of an inch changes the field resistance from "all out" to "all in" position in very fine steps.

ALLIS-CHALMERS

▲ For more details circle NED-277 D4 on enclosed inquiry slip ▲

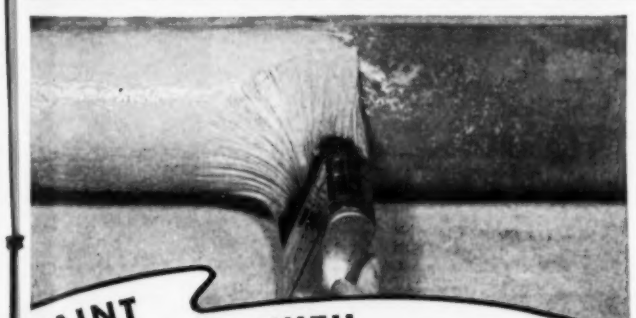
SAVE! SPECIFY
"U. S." ALUMINUM WIRE

Specify U. S. Aluminum Wires and enjoy the same service efficiency at big savings in installation costs! Aluminum wires have current-carrying capacity of 84% that of copper, and on many circuits it is better to use aluminum instead of copper, size for size. A larger size aluminum conductor can be specified for equal voltage drop on long A.C. runs, still retaining a weight and cost advantage. The inherent lightness and easy handling of aluminum bring savings to you. All standard sizes from No. 12 Awg to 2,000,000 circular mils are available.

Write for free pair of informative booklets telling all about Aluminum Wires and Cables.

UNITED STATES RUBBER COMPANY
Electrical Wire and Cable Department
ROCKEFELLER CENTER • NEW YORK 20, N. Y.

▲ For more details circle NED-278 D4 on enclosed inquiry slip ▲



PAINT OVER RUST WITH TYGORUST!

"the 'no-prep' vinyl primer"

- minimizes surface preparation
- dries hard in minutes
- goes under any type finish
- provides excellent adhesion
- inhibits rust formation

TYGORUST is a new and unique primer specifically developed to permit the use of TYGON and other vinyl based coatings on rusted ferrous metals. Its outstanding features include easy application — fast drying — high coverage — excellent adhesion to wet or dry rusted steel, wood, concrete, or previously painted surfaces — excellent adhesion for vinyl, nitrocellulose, alkyd, oleoresinous, or bituminous finishes—and, real resistance to rust formation.

359C

Write for details today — try TYGORUST tomorrow!

U. S. STONEWARE CO.
Akron 9, Ohio

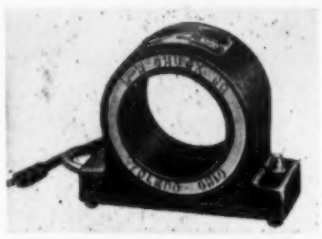
▲ For more details circle NED-279 D4 on enclosed inquiry slip ▲

SMALL PARTS CABINETS
have clear styrene drawers

Restyled Jiffy small parts cabinets provide convenient storage for workshop and office. They can be bench or wall mounted and are provided with rubber feet. Four sizes with 16, 24, 32 and 48 drawers are available. Frame and back are of metal, finished in choice of red or gray. Drawers, which are 5¾-in. long, 2⅞-in. wide and 1¼-in. high, are clear plastic for visibility of contents. They can be divided into two or three compartments with furnished metal divider strips, and are fitted with front slots for label. Made by **Fidelity Products Co.**, Dept. A. G., 2817 Third St. N.W., Canton 8, O.

▲ For more details circle NED-280 D4 on enclosed inquiry slip ▲

DEMAGNETIZER
for use on tools and small parts



Such tools as drills and reamers, and small production parts or work that have become magnetized by induction can be demagnetized with this coil type demagnetizer. Opening of 3¾ in. diameter will accommodate parts up to that dimension. Quick passage through the coil is sufficient to completely demagnetize the object. Control is by pushbutton, and operation is on 110 v, 60 cycle ac. Made by **L-W Chuck Co.**, 51 S. St. Clair St., Toledo 4, O.

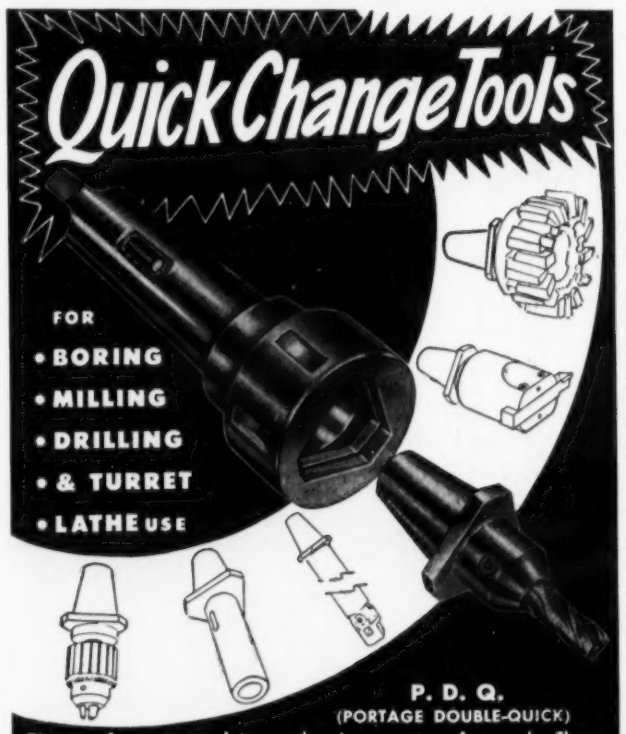
▲ For more details circle NED-281 D4 on enclosed inquiry slip ▲

TITANIUM BOLTS
corrosion resistant and lightweight

Available in flush head shear, external hexagon shear and internal and external tension wrenching types, titanium bolts are lightweight and corrosion resistant and retain strength at elevated temperatures. Sizes are No. 10-¼, 5/16, ⅜, 7/16, ½ and ⅝-in. They are suitable for use in aircraft industry and in other fields such as chemical processing where corrosion resistance is of importance. Weight is approximately 60 per cent of that of a comparable alloy steel fastener. Made by **Standard Pressed Steel Co.**, P. O. Box 581, Jenkintown, Pa.

▲ For more details circle NED-282 D4 on enclosed inquiry slip ▲

Quick Change Tools



FOR
- BORING
- MILLING
- DRILLING
- & TURRET
- LATHE USE

P. D. Q.
(PORTAGE DOUBLE-QUICK)

Changes from one tool to another is a matter of seconds. Three point locking feature and tapered shank assures repositioning and eliminates "run out."

Send for catalog describing individual holders and adapters or for specific information on your machine tools.

PORTAGE Double-Quick TOOL CO.
1043 Sweitzer Avenue • Akron 11, Ohio

▲ For more details circle NED-283 D4 on enclosed inquiry slip ▲

Two types, 7 basic sizes. Capacities from 400 CFM to 23,500 CFM.

nyb

PROPELLER FANS

Propeller type ventilating fans deliver large volumes of air at low resistance and low current consumption. All wheels are machine balanced for smooth, vibration-less operation. They are laboratory tested, accurately rated and fully guaranteed in strict accordance with Standard Codes.

Write for Bulletin 494

THE NEW YORK BLOWER COMPANY
SALES OFFICES • 3171 SOUTH SHIELDS AVENUE • CHICAGO 16
FACTORY, LAPORTE, INDIANA

▲ For more details circle NED-284 D4 on enclosed inquiry slip ▲

GENERAL
INDUSTRIAL
PNEUMATIC TIRES

WIDE-BASE design is the key to every wanted feature for more profitable material handling

SAVE TIME • MONEY • LABOR

- MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS
- CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE
- SAVE HIGH COST FLOORS AND FLOOR SURFACES
- SLOW, EVEN WEAR FOR LONG SERVICE
- HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND
- ROLLS EASIER, SMOOTHER OVER ALL SURFACES

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS *Swivel*

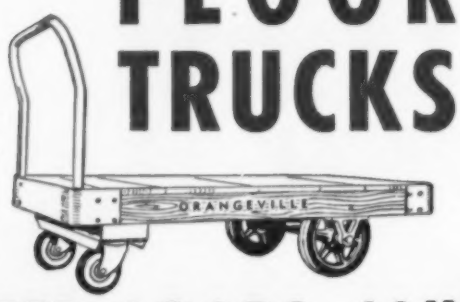
Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG... DEPT. 4

The GENERAL TIRE & RUBBER CO. Akron, O.

▲ For more details circle NED-285 D4 on enclosed inquiry slip ▲

FLOOR TRUCKS

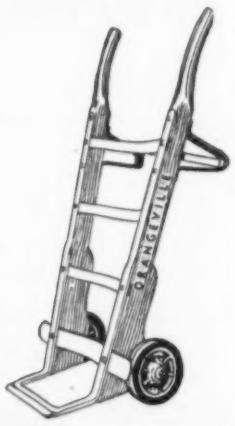


"KEEP LOADS ALIVE"

STANDARD SIZES & TYPES
SPECIAL DESIGNS
VARIOUS TYPE WHEELS:
IRON - RUBBER - PNEUMATIC

Write for catalog

ORANGEVILLE MFG. CO.
Orangeville 12, Pa.
"Since 1879"



FLOOR TRUCKS ORANGEVILLE

▲ For more details circle NED-286 D4 on enclosed inquiry slip ▲

NEW phenolic socket has Levolier® switch dependability and push button control

Here is the first industrial socket especially designed for modern plants and modern equipment. Its functional design and construction conforms to all modern codes and safety regulations. The phenolic two piece shell is impact resisting and double thick for longer life under the hard wear and abuse of all industrial applications. Cap and casing screw together at the lever for quick opening and easy wiring. Internal mechanism consists of an extra heavy screw shell and the proven dependable Levolier Switch. The socket is fully insulated and has no exposed metal.

Send for Bulletin No. S-54 today.

McGILL® electrical specialties

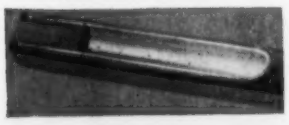
McGILL MANUFACTURING CO., INC. 151 N. CAMPBELL ST. VALPARAISO, INDIANA

▲ For more details circle NED-287 D4 on enclosed inquiry slip ▲

Do you know this about Laminates?

SHEET COMBINATIONS
Synthane can be bonded securely to rubber, metal and other materials.

TUBING COMBINATIONS
Synthane can be cured directly onto metal tubes or rods to form a tight, permanent bond.



PRINTED SYNTHANE
Despite Synthane's hard, smooth surface, we can print on it to make instrument panels, dials, and other components. The process is permanent; the impressions stay put.

POST FORMING
Certain grades of Synthane may be reheated and post-formed.

SYNTHANE

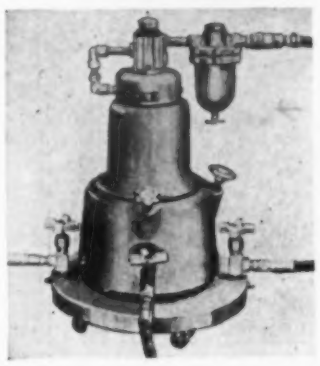
SYNTHANE CORPORATION
N. E. RIVER ROAD, OAKS, PENNA.
Manufacturers of Laminated Plastics

Please send me a copy of the Synthane catalog.

Name_____
Address_____
City_____ (zone)_____ State_____

▲ For more details circle NED-288 D4 on enclosed inquiry slip ▲

HYDRAULIC PUMP is driven by compressed air



Over 10,000 psi hydraulic pressure is produced from 80 lb air pressure by Air-O-Matic hydraulic pump which provides automatic push-button operation. Pressure is delivered to rams for control by push-button located on top of pump. Unit uses up to four rams on the same hookup, each ram being individually controlled. It will operate rams and cylinders from 1 to 100 tons and is mounted on casters for mobility. Made by **Bee-Line Co.**, Dept. 19, Davenport, Iowa.

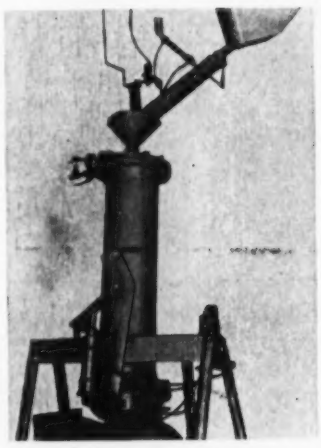
▲ For more details circle NED-289 D4 on enclosed inquiry slip ▲

SOLDER POT applicable for printed circuits

An adjustable calibrated hydraulic thermostat with seven steps of fixed temperatures and three load wattages is feature of this precision printed circuit solder pot. Cavity dimensions are 20 x 12 x 2 in., with usable depth being 1½ in. Design limits the temperature deviation throughout the pot to 0° F. Pilot lights are provided for thermostat and power and power switch. Maximum temperature is 550° F. Operation is on 230 v. Made by **Dee Electric Co.**, 1105 N. Paulina St., Chicago 22, Ill.

▲ For more details circle NED-290 D4 on enclosed inquiry slip ▲

PRESSURE FILTER dewaters granular materials



Granular material fed into this pressure filter in slurry form is dewatered and discharged with less than 10 per cent moisture content by weight. Operation is fully automatic. Shop air at 85 psi is employed, with average consumption being 15 cfm. Electric power is required for solenoid valves and timer only. Capacities range up to 5 tons per hour of 100 lb per cubic foot material. Made by **Hydro-Blast Corp.**, 2552 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-291 D4 on enclosed inquiry slip ▲

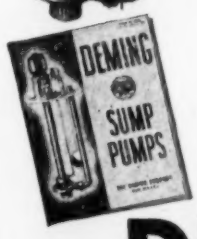
SUMP SERVICE

Deming Vertical Sump Pumps meet a wide range of needs.

HEAVY DUTY: Sizes 1 to 10 inch discharge. Capacities up to 3000 G.P.M. Heads to 140 ft.

MEDIUM DUTY: Sizes 1½ and 2 inch discharge. Capacities up to 160 G.P.M. Heads to 60 feet.

LIGHT DUTY: Size 1½ inch discharge. Capacity up to 80 G.P.M. Heads to 30 feet.



Send for Bulletin 4600A

All types of Deming Sump Pumps are illustrated and explained. Contents include selection tables, accessories, etc.

THE DEMING COMPANY
520 BROADWAY • SALEM, OHIO

DEMING SUMP-PUMPS

▲ For more details circle NED-292 D4 on enclosed inquiry slip ▲

SEL-LOK SPRING PINS *won't vibrate loose*

Use them as hinge pins, use them to fasten gears, pulleys and sheaves to steel shafting, use them to replace keys, keyways and cotter pins—they won't work loose. For complete information, write STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

Sel-lok spring pins are shock resistant and vibration proof • eliminate expensive reaming operations • replace tapered or grooved pins • easy to insert and remove • reusable • accurate in diameter and length • reduce installation costs • lighter in weight and as strong as a solid cold-rolled steel pin of the same diameter • available in a full range of lengths and diameters

SEL-LOK SPRING PIN DIVISION sps
JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-293 D4 on enclosed inquiry slip ▲

Let us Prove . . .

★ *Faster cutting, even on hardened steel or abrasive surfaces!*
★ *Superior finishes!*
★ *Increased production and reduced tool costs!*

Job-engineered for greater production profits!

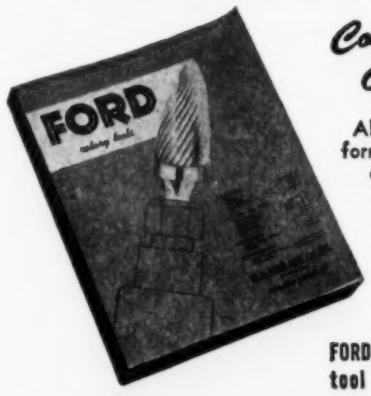
FORD

solid CARBIDE END MILLS

On-the-job tests of FORD solid carbide end mills confirm their superiority! Greater rigidity, job-engineered spiral flutes and cutting edges, and close tolerances all contribute to faster, better production and lower costs. Sizes to ½". See new catalogue No. 207.

FORD -- *the complete line!*

HSS ground cutters, rotary files, countersinks
CARBIDE cutters, end mills, grinding burs



Complete Details Operating Data

All specifications, plus informative operational data on more than 300 FORD stock rotary tools contained in new FORD catalogue No. 207, just released. Send for YOUR copy

FORD regrinding service adds life, reduces tool costs

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years
721 West River St., Davenport, Iowa

▲ For more details circle NED-294 D4 on enclosed inquiry slip ▲

Wickwire rope slings are offered in both braided and single part construction to meet a wide variety of service requirements.

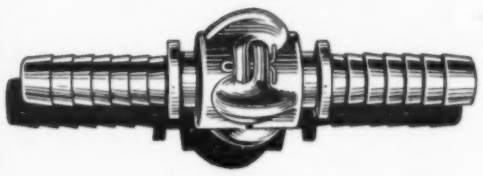
For additional information write to Wire Rope sales office, Palmer, Mass.

WICKWIRE ROPE
CFI PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

2015

▲ For more details circle **NED-295 D4** on enclosed inquiry slip ▲

"AIR KING"



QUICK-ACTING, UNIVERSAL TYPE

HOSE COUPLING

A strong, durable coupling for quick, tight connections on field or factory air hose. Plain design—no parts to get out of order or clogged with dirt. Made in hose ends and male and female threaded pipe ends. Completely interchangeable. Patented safety locking device is proof against vibration and rough handling. Malleable iron (rust-proofed) or bronze.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

▲ For more details circle **NED-296 D4** on enclosed inquiry slip ▲

VULCAN
ELECTRIC SOLDERING TOOLS

Strip Heaters

For Heating

Flat surfaces • Shallow Pans
Hot Plates • Ovens • Platens • Dies
Plastic extruders • Melting pots.
Tanks • Package Sealers • etc.

RUGGED CONSTRUCTION

Rust-resisting sheath is of one-piece rectangular tubing, specially drawn to our specifications.

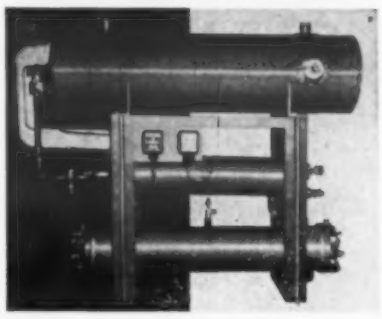
Heater coil of nickel chromium wire, is insulated from the inner sheath wall with a refractory selected for best thermal conduction and stability at elevated temperatures. Terminal screws are stainless steel to insure strength and avoid oxidation.

115 and 230 volts Five terminal arrangements
Steel sheath (150 to 1250 watts) for temperatures up to 750° F, max. High temperature sheath for temperatures up to 1200° F max.

VULCAN ELECTRIC COMPANY
DANVERS 7, MASS.
EXPERIENCED SPECIALISTS IN ELECTRIC HEAT
Makers of Vulcan Electric Soldering Tools, Electric Solder Pots, Electric Branding Irons, Electric Heating Units, Electric Heating Devices

▲ For more details circle **NED-297 D4** on enclosed inquiry slip ▲

PACKAGED WATER CHILLER
capacities range from 15 to 220 tons



Latest addition to line of packaged water chilling units is this Flow-Therm water chiller which allows user to tailor unit to exact job requirements from job-tested equipment and selection procedures. Unit is shipped from factory without compressor, allowing user to select compressor best suited for the job. Same unit is adaptable for heat pump use on larger installations. Capacities range from 15 to 220 tons. Made by **Acme Industries, Inc.,** 450 Mechanic St., Jackson, Mich.

▲ For more details circle **NED-298 D4** on enclosed inquiry slip ▲

GUIDE PIN BUSHINGS
of self-oiling powdered steel

Made of powdered steel alloy, R-B guide pin bushings are heat treated and have sealed internal oil wells as an integral part of the bushing. They are shipped with the wells filled, no external oiling being required for the life of the units. Long wear and little likelihood of seizing and galling of guide pins are features. Made by **Allied Products Corp.,** Richard Brothers Punch Div., 12629 Burt Rd., Detroit 23, Mich.

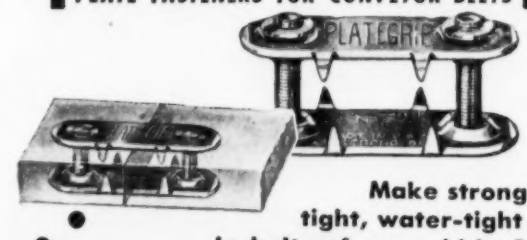
▲ For more details circle **NED-299 D4** on enclosed inquiry slip ▲

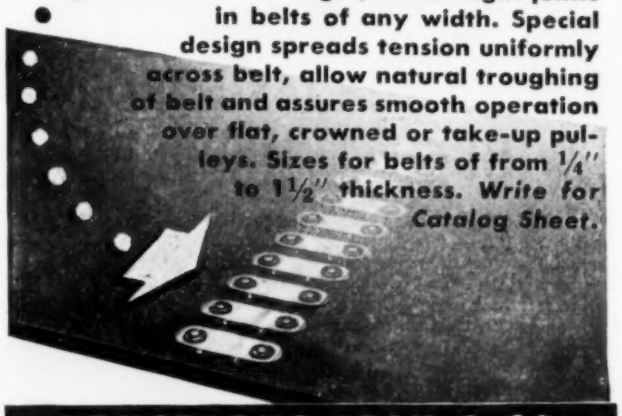
VOLT-AMP TESTERS
pocket-size high voltage units

Three new high voltage models are added to Amprobe Junior line of pocket-size volt-amp testers. Each is provided with two voltage ranges of 0 to 150 and 0 to 600 v ac and is available with an ammeter range of 0-25, 0-50 or 0-100 amps. These snap-around units provide instrument accuracy on a calibrated scale and give instant current readings without necessity of shutting down equipment. They also have safety voltage test leads and are designed to fill needs of plant maintenance and electrical workers and of industrial contractors. Made by **Pyramid Instrument Corp.,** Dept. NED, Lynbrook, N. Y.

▲ For more details circle **NED-300 D4** on enclosed inquiry slip ▲

PLATEGRIP
PLATE FASTENERS FOR CONVEYOR BELTS



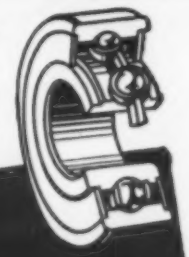


Make strong dust-tight, water-tight joints in belts of any width. Special design spreads tension uniformly across belt, allow natural troughing of belt and assures smooth operation over flat, crowned or take-up pulleys. Sizes for belts of from 1/4" to 1 1/2" thickness. Write for Catalog Sheet.

ARMSTRONG BRAY & CO.
5362 Northwest Highway • CHICAGO 30, U.S.A.

▲ For more details circle **NED-301 D4** on enclosed inquiry slip ▲

How cost-wise buyers rate
STANDARD STOCK
BALL BEARINGS



GOOD
BETTER
✓ BOSTON *Gear*

BALL BEARINGS
Radial • Thrust • Combination
Single Row • Double Row
—for Speeds up to 5000 RPM

IN STOCK AT 92 BOSTON *Gear* DISTRIBUTORS at Factory Prices

Look under "Gears" in the Yellow Classified Section of your Telephone Directory for the Distributor nearest you.

Get this Catalog . . . lists 5112 standardized machine parts . . . your reliable "textbook" of drive design and maintenance. Ask your BOSTON Gear Distributor, or write . . . Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

▲ For more details circle **NED-302 D4** on enclosed inquiry slip ▲

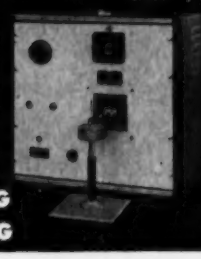
LepeL's 3 new
LOW COST • PORTABLE
HIGH FREQUENCY
Induction
HEATING UNITS

Ideal for . . . .
• Production Heating of small parts
• Educational Institutions
• Research Laboratories
• Machine Shops
• Tool Rooms

MODEL T-2½-1 Electronic Tube Operated $1620. f.o.b. factory

MODEL 2 KW Spark Gap Operated $870. f.o.b. factory

MODEL T-1 Electronic Tube Operated $885. f.o.b. factory



HARDENING
MELTING • BRAZING
ANNEALING • SOLDERING

The Lepel line of induction heating units represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating. With a background of half a century of pioneering electrical and metallurgical experience, the name Lepel has become the symbol of induction heating equipment embodying the highest standards of engineering achievement, dependable low cost operation and safety.

Amazing in its speed, Lepel equipment reduces the time required for hardening, annealing, stress relieving, brazing, soldering and melting from minutes to seconds. It performs these operations with a degree of precision and uniformity rarely attained through other processes.

LEPEL Electronic Tube GENERATORS available from 1 kw. to 100 kw.
LEPEL Spark Gap CONVERTERS available from 2 kw. to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information on high frequency induction heating.

All Lepel equipment is certified to comply with the requirements of the FCC.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle **NED-303 D4** on enclosed inquiry slip ▲

Hydromatic LIFT TRUCKS

STUEBING DESIGNED • STUEBING ENGINEERED • STUEBING BUILT

multi stroke
safety
and
economy
ease of
operation
speed

Built like a fine machine tool, the multi-stroke Hydromatic features easy lift, easy rolling, quick automatic action. Unusually economical and trouble-free in operation. Machine-bolted frame and machined standardized parts speed and simplify occasional repairs, eliminate downtime.

LIFT TRUCKS INCORPORATED

2423-2431 Spring Grove Avenue • Cincinnati 14, Ohio

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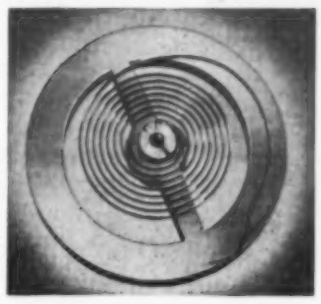
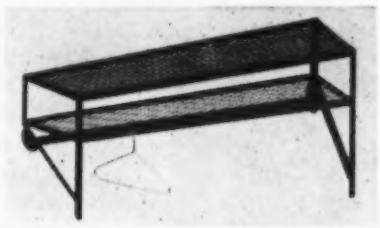
VIBRATION-TESTED HAIRSPRINGS for fuses, governors, time controls



Wheel and hairspring assemblies, vibration tested at frequencies up to 50 beats per second to an accuracy of 0.035 per cent depending on intended application, are now available. Assemblies are usable in fuses, governors, time control devices and electro-mechanical fire control instruments. Even more than 50 beats per second can be attained for certain applications. Assemblies are furnished or service tested by **Hairspring Vibrating Co.,** Dept. BD, 406 32nd St., Union City, N. J.

▲ For more details circle **NED-306 D4** on enclosed inquiry slip ▲

WALL WARDROBE made for heavy winter garments



Angle steel with arc welded joints, of which this model WC-122-F.B. Serv-Mor wall wardrobe is made, enables unit to stand heavy overloads of thick winter garments. Wardrobe is shipped set up and is available with open or closed hook Sturdi hangers. It is finished in office gray paint. Made by **Appliance Products Co.,** Madison 4, Wis.

▲ For more details circle **NED-307 D4** on enclosed inquiry slip ▲

TAP DRIVER has adjustable torque feature

Full-releasing roller drive and adjustable torque feature incorporated in the Safe-Torque tap driver virtually eliminate tap breakage. The roller drive releases without friction, heat or wear when torque exceeds the preset limit based on tap strength. Five settings on standard drivers permit adjustment of torque between 55 and 660 lb-in. Unit operates at maximum speed when bottoming. Three standard assemblies are available for No. 8-32 to ¼, 5/16 to 7/16 and ½ to ⅝-in. tapping ranges. Diameters of 1⅝, 2 and 2½ in. permit use on close-center work. Use can be on various machines with a reversing spindle. Made by **Scully-Jones & Co.,** 1952 S. Rockwell St., Chicago 8, Ill.

▲ For more details circle **NED-308 D4** on enclosed inquiry slip ▲

NEW NYB&P CONVEYOR BELT HAS BUILT-IN RIP STOPPERS

"RESISTORIP" construction ejects sharp, partly-embedded objects that ruin belts

How often have you had to junk an almost new conveyor belt...ripped to shreds by razor-sharp particles which embed themselves in the belt, then jam and slit long sections?

NYB&P's new "RESISTORIP" belt is designed to end this useless loss. At close intervals throughout its length, transverse groups of high-tensile steel wires are built into the belt's carcass. When a sharp, partly-embedded object starts to rip this belt, it quickly encounters one of these wire groups. Immediately it is ejected...and damage to the belt is confined to a very short section, only inches in length!

SEE YOUR NYB&P DISTRIBUTOR

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.

America's Oldest Manufacturer of Industrial Rubber Products

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production flows smoothly...

at top speed, at all times, yet free of rejects

Kester makes 62 different fluxes to meet any requirements. Why not write our Technical Department for full information?

KESTER SOLDERING FLUX

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Newark 5, N. J. • Brantford, Canada

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REPAIR CONCRETE PLANT FLOORS by SAWING BEFORE BREAKING

. . . with a Clipper CONSAW

Save up to 50% in labor and material. Saw repair patches—saw gas, water, conduit, and air line trenches in floors, runways and streets. Stops cracking and spalling—stops high maintenance costs.

. . . It's Yours on **FREE TRIAL**

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The unqualified Clipper guarantee of satisfaction is backed by world-wide experience, the ability to select the finest materials and the "know-how" to put them together

. . . by the **MASONRY SAW Originators**

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MODEL HD 15 MODELS PRICED FROM $265

SAME DAY SERVICE FROM YOUR NEAREST FACTORY BRANCH —SEE BELOW

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CLIPPER SUPERIOR DIAMOND BLADES

. . . guaranteed to . . . "Consistently Provide the fastest cut . . . at the lowest cost . . . with the greatest ease!" Clipper alone can supply every necessary metal bond . . . in over 36 specifications.

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CITY _____ STATE _____

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Cleveland feeder table drive ready for installation. This particular drive has an over-all reduction ratio of 320:1.

SOLVE FEEDER TABLE TROUBLE WITH CLEVELAND DRIVES

● This is the dependable Cleveland worm gear feeder table drive that maintains steady feed rates at all times. The Cleveland design features a one-piece gear shaft construction which eliminates distortion of housings under high thrust loads. Thus, worm and gear are always in perfect contact to transfer power smoothly and steadily.

Free Bulletin No. 140 tells you more about this feeder table drive. Write for a copy today. The Cleveland Worm and Gear Company, 3283 East 80th Street, Cleveland 4, Ohio.

THE CLEVELAND WORM & GEAR COMPANY
Speed Reducers

Affiliate: The Farval Corporation, Centralized Systems of Lubrication

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Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

Write for Track Equipment Bulletin NE-4

L. B. FOSTER CO.
CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N.Y.

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Here's the easy way to spot railroad cars

It's no back-breaking job to move railroad cars—when a Link-Belt Car Spotter is on the job. One man can take two or three turns of rope on the motor-driven capstan—and spot cars right where they're wanted. Cuts loading and unloading time. Reduces demurrage charges. Two sizes: 5 and 10 hp, developing 5,000 and 10,000 pounds of rope pull, portable or stationary models.

Link-Belt offers a complete line of car spotters . . . also specializes in drum type puller applications.

Cuneo Press, Chicago, has used Link-Belt Car Spotters for 20 years.

LINK-BELT

CAR SPOTTERS

Write today for fact-packed Book 2092

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices in Principal Cities. 13,161

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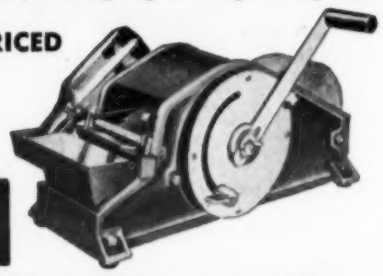
Another Triumph of Derby's Designing and Engineering Skill!

THE MEDIUM PRICED

Super **DERBY**

"152"



SENSATIONAL DISPENSER DELIVERS PREDETERMINED LENGTHS OF GUMMED TAPE UP TO 30", (1" TO 3" WIDE)

Priced far lower than any machine of comparable quality now on the market, the new Derby "152" has amazing versatility and durability. Its exclusive Derby "Moisture Control System" provides a completely moistened tape every time — and its unique brush design makes unnecessary the usual two brush arrangement. For industrial packaging, specify Derby "152".

A DERBY FIRST

Stainless steel cut-off blade, guaranteed for life of machine.

LOOK AT THESE QUALITY DERBY FEATURES

- Exclusive spring clutch feed
- Visible auxiliary water reservoir
- Adjustable, vari-length handle
- Larger interlocking side frame construction
- Measuring feed stop
- Automatic tape cut-off
- Visual measuring scale
- Water heater available at extra cost

See your dealer or write

DERBY SEALERS INC. Derby, Conn.

▲ For more details circle NED-314 D4 on enclosed inquiry slip ▲

Check up

ON THE 132 USES FOR SPENCER VACUUM...

It's a new tool for industry that is eliminating tedious, time consuming jobs. It handles hot materials, reclaims metals, picks up liquids, removes dirt and dust at assembly and inspection benches and from the finished goods.

And at night the same Spencer System can clean immense floor areas in the factory, and clean and polish the floors, furnishings, and equipment in your offices. Sizes from ½ to 100 HP. Ask for the bulletin "132 Unusual Uses."

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

466-K

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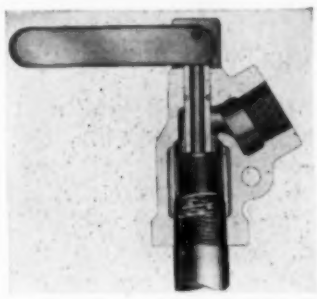
ALUMINUM TUBING FITTING for racks, scaffolds and framework

Aluminum tubing can be locked together for quick assembly into storage racks, bins or other lightweight frameworks by means of Jiffy Joint cast-aluminum fittings. Fifteen different angles and combinations are available. Joint is simple split sleeve tightened by a key and grips tubing with firm hold. These Italian-made fittings are distributed by **E. Taranger, Inc.**, Box 981-N, 1611 S. W. First Ave., Ft. Lauderdale, Fla.

▲ For more details circle NED-316 D4 on enclosed inquiry slip ▲

AIR SHUTOFF VALVE for use with pneumatic tools



When open, type TA-30 air shutoff valve provides unrestricted air flow to any pneumatic tool, but when closed, air is automatically bled out of the tool. This permits the hose to be safely disconnected from the valve outlet. Illustration shows valve in the open position. Cam-type handle causes the stem to hold the poppet off the seat and allows free air flow. Air in hose and tool bleeds out through the hollow stem. Made by **Cameron Iron Works**, P. O. Box 1212B, Houston, Tex.

▲ For more details circle NED-317 D4 on enclosed inquiry slip ▲

STAINLESS STEEL VALVE 6000 psi type for instrument use

Designed for such services as instrument panels and lines, gage, bypass and corrosive lines and orifice meters, stainless steel valve is rated at 6000 psi, is compact and weighs 2¼ lb. Packing gland can readily be pulled tight in close quarters and disassembly is easy. Size permits close alignment of piping with near structures. Unit is available in ¼, ⅜ and ½-in. sizes. Made by **Manning, Maxwell & Moore, Inc.**, 65 Grove St., Watertown 72, Mass.

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WANT A BETTER CHAIN?

FOR DRIVES
FOR CONVEYORS

This new booklet presents the complete story of the new Rex R, RX and RR series Chabelco® Drive and Conveyor Chains. It explains how these improved chains can give *you* more for your chain dollar. Send for your copy of Bulletin 53-59 today!

REX® CHAIN BELT COMPANY OF MILWAUKEE

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For Forty years Ohio Gear engineers and craftsmen have enjoyed an unusual reputation for turning specifications into power transmission of highest industrial quality.

Ohio gears are produced by the most modern equipment and methods in gear cutting. Complete up-to-date machinery operates throughout the plant . . . cutting, broaching, milling, drilling, heat treating and grinding.

We will be glad to assist you in your gear production problems and quote on your specifications.

Distributors in principle industrial areas.

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OHIO GEARS

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When they're GOODYEAR INDUSTRIAL TIRES they're Job-Fitted!

See Your Goodyear Dealer for America's most complete line of Industrial Tires

Solid Fact for Solid Users
Get Goodyear's Xtra Cushion Solid Tire in All Service Tread (shown above) for top traction plus greater cushioning.

ANY plant maintenance records will quickly prove this: *A makeshift industrial tire that's wrong either in tread, compound or size leads to early tire failure.*

And to stop this waste, more and more plant operators are turning to their Goodyear Dealer for the right tire for the right job.

You'll find this trouble-shooter can job-fit your operation, too. He has over 100 different solid tire sizes plus a complete line of pneumatics and semi-pneumatics. All can be compounded in either UNiversal chip-resistant or Neoprene oil-, acid-, *and* chip-resistant compounds. What's more, your Goodyear Dealer will specify the most efficient tread – smooth, grooved, All Service or the famous All-Weather – for your plant's floor surfaces.

For free job-fitted tire recommendations in your plant, call your Goodyear Dealer or write:

Goodyear, Industrial Tire Sales,
Akron 16, Ohio.

USE THE RIGHT TIRE FOR THE RIGHT JOB—USE

GOODYEAR

INDUSTRIAL TIRES

Xtra Cushion, All-Weather, All Service—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

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300 to 4000 lbs!

ON ALBION'S HIGH-CAPACITY PNEUMATIC TIRE CASTERS . . .

Albion's high-capacity, full pneumatic tire casters are available in a wide range of practical sizes and types as swivel or rigid models . . . *single or dual wheel units* to match any load capacity requirements.

They offer the maximum in both floor and load protection, smoother handling, quiet operation, safety and longer caster life. Their economical cost will amaze you. Inquire and see!

SEMI-PNEUMATICS, Too!—Albion's Semi-Pneumatic Tire Casters are also immediately available . . . as single or dual wheel units, rigid or swivel models, in sizes and capacities to meet your specifications.

Don't forget . . . ask for your copy of Albion's big illustrated caster catalog . . . it's yours for the asking.

Represented in Canada by
C. J. McDONALD
Rear, 1564 Queen's Street, West; Toronto.

ALBION INDUSTRIES, Inc.
ALBION, MICHIGAN

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There's many a slip . . .
but it only takes one to cost money!

PABCO GRIP-TREAD MASTIPAVE FLOOR COVERING

Saves Money . . . Four Ways!
NON-SLIP, SUPER-TOUGH RESILIENT, LOW-COST

These four money-saving ways are why factories, schools, office buildings, hospitals, and Governmental institutions and others specify Pabco Grip-Tread MASTIPAVE . . .

❶ *Non-Slip* Grip-Tread Mastipave prevents accidents. It's the safe floor with built-in brakes.

❷ *Non-Slip* Grip-Tread Mastipave is super-tough . . . resists wear day-in and day-out. Replacement costs are at a minimum.

❸ *Non-Slip* Grip-Tread Mastipave is resilient, reduces foot fatigue, increases job efficiency.

❹ *Non-Slip* Grip-Tread Mastipave is low cost. Low-cost installation, low-cost maintenance, long wearing qualities. You can't lose—investigate today. Clip the coupon below and learn how you can show a real money value to your company.

FILL OUT THIS COUPON

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New York 16 • Chicago 54 • San Francisco 19
(Mail to Dept. B nearest office)

GENTLEMEN: Without cost or obligation to me, please send your folder, "Every Building needs Pabco MASTIPAVE."

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ADDRESS _____
CITY _____ STATE _____

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DEBURRING MACHINE
has semiautomatic operation

Semiautomatic in operation, model A deburring machine removes burrs from both ends of drilled holes at rates varying from 600 to 3000 holes per hour. It utilizes standard countersink type tools, rotating in opposite directions to equalize cutting forces. Capacity is 6 in. between chucks and up to 1-in. diameter. Loading and unloading are manually performed, machining cycle being initiated by foot pedal. Machine can be changed over to handle different workpiece in as little as 3 minutes. It is fitted with air-operated cycling controls and is driven by a variable speed ⅓-hp motor. Made by **Model Machine Co.**, 4729A Hawthorne St., Philadelphia 24, Pa.

▲ For more details circle NED-324 D4 on enclosed inquiry slip ▲

WELDING ROD
for joining aluminum

Developed for both carbon arc and torch welding of aluminum types 3S, 14S, 43S, 52S, 53S and 61S, No. 35 F. C. welding rod makes sound, porosity-free welds of good appearance with little distortion of work. Applications include tanks, shapes and containers, as well as light gage joining involving butt, lap, edge and corner work. Flux coated rod is made in 3/32, ⅛, 5/32 and 3/16-in. diameters, 28 in. long. It is available in 5-lb packages and in bulk. Made by **All-State Welding Alloys Co.**, 249 Ferrisden Ave., White Plains, N. Y.

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PHOTOCOPY CABINET
lightproof unit also holds machine

Ample shelf space for all paper and other supplies, plus a section for the Apeco Auto-Stat photocopy machine, are built into the Lite-Guard cabinet. Doors and top open to form a light shield with a vinyl plastic draw curtain front, preventing accidental exposure of light-sensitive photopaper under any light conditions. Cabinet measures 78 x 36 x 18 in. closed and 36 in. deep when opened. Made by **American Photocopy Equipment Co.**, Dept. NER, 1920 W. Peterson Ave., Chicago 26, Ill.

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Cut Maintenance Costs with CARBOLOY MASONRY DRILLS

Anchoring machinery

Stringing electrical conduits

Installing plumbing

Get fast, clean, deep holes, at any angle, in concrete, asphalt, tile, brick, slate, marble, etc.

Carboloy Masonry Drills won't pack or stall. Rotary-drill *any* masonry continuously to any depth. Superhard Carboloy cemented carbide cutting tips assure long drill life. Available separately, or in job-designed kits. Sizes 3/16" through 1½".

For complete information contact your distributor or write—

CARBOLOY
DEPARTMENT OF GENERAL ELECTRIC COMPANY
11179 E. 8 Mile Street, Detroit 32, Michigan

"Carboloy" is the registered trademark for the products of Carboloy Department of General Electric Company.

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Write for 32 Page Catalog

- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
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Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

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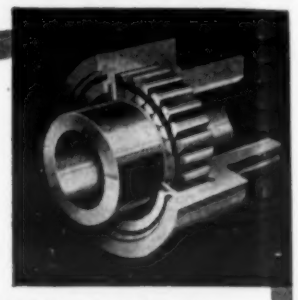

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OVER-RUNNING, BACKSTOPPING, INDEXING:

WHY SPECIFY A CLUTCH WITH LESS THAN MAXIMUM TORQUE CAPACITY?

You're assured a full complement of torque capacity when you specify today's modern clutch design. The Formsprag Clutch, with a full complement of sprags, provides more capacity in less unit space than any other clutch. You're assured long life too: an infinite number of changing contact points prevents excessive wear. Design simplicity permits rebuilding—three times. For more facts, write for this 10-page folder of descriptive engineering data, on your letterhead please.

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FORMSPRAG COMPANY
23595 Hoover Road • Van Dyke, Michigan

FULL COMPLEMENT
FORMSPRAG *Clutches*

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NOW—CUT SMOOTH BEVELS ON WAVY PLATE

Now Cut-O-Matic is more useful and versatile than ever. This low-cost portable flame-cutting machine now has Floating Torch Assembly . . . to bevel accurately on wavy plate. New swivel-head beveling torch rides on contour wheel to keep angle and distance uniform automatically no matter how wavy and bulging the plate.

Cut-O-Matic weighs only 50 lbs. Carries any place, used wherever current is available. Motor driven. Runs on own track. Needs little skill. Cuts plates, stacked sheets, heavy slabs. Square or bevel cuts. Straights, strips, circles or rings. Probably the most useful and profitable flame cutter ever invented.

Your NCG dealer or district office will be glad to arrange a free demonstration in your shop. Or write for catalog.

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NCG® NATIONAL CYLINDER GAS COMPANY
840 N. Michigan Ave., Chicago 11, Illinois

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CORRECT PROCESSING essential with baking insulating varnishes

After impregnation with Irvington insulating varnish, heavy transformer coils are baked in an oven like this.

The full benefits of the electrical and mechanical properties of Irvington baking insulating varnishes are attained only by correct curing. Baking oven should provide dry heat at controlled temperatures uniform throughout the oven. A ventilating system should be incorporated to remove solvent fumes as they form. Irvington recommendations for baking schedules and temperatures should be carefully followed.

For further information on varnish baking schedules, write to: **Sales Manager, Varnish Department, Irvington Varnish & Insulator, Division Minnesota Mining & Manufacturing Company, 14 Argyle Terrace, Irvington 11, New Jersey.**

Advt.

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Automatic's COST CUTTER

shows you how to chart and analyze your own materials handling operations

FREE!

Here is a completely new, completely *different*, 24-page booklet...one of the most valuable aids ever offered in the Materials Handling field! Written for Automatic by a nationally-famous authority, it shows you how professional materials handling specialists analyze and chart operations...teaches you, in a simple, quick, easy-to-read way, how to uncover the "weak links" in your own materials handling and *chart for yourself* improvements that will give you greater efficiency and lower costs. Moreover, it is aimed at *your own field*, with case histories of what others are doing to lick the very materials handling problems that worry you most.

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WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

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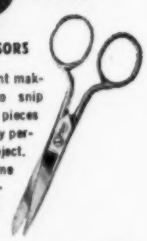
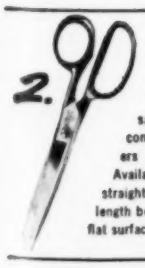
4 MORE COST-CUTTERS IN THE BIG Clauss LINE

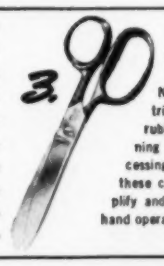
Here are four fine Clauss tools you can buy with confidence. Each meets a specific need in industrial cutting operations, each is made to outlast average scissors and shears. Over 100 other models — ask your CLAUSS distributor about them.



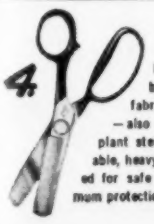
1. RUSTLESS SCISSORS
No. 615-C – Garment makers frequently use to snip threads from finished pieces – where a drop of rusty perspiration means a reject. Double plated, chrome over nickel, these scissors give maximum rust protection.



2. LEFT HAND SHEARS
No. LH 7½ – For the complete comfort and satisfaction of the many competent left handed workers in American industry. Available in 7½" length straight model shown, and 11" length bent model for cutting on flat surfaces.



3. CURVED BLADE SHEARS
No. 328KV – In the trimming of molded rubber items, in canning and poultry processing, in meat packing, these curved shears simplify and speed up costly hand operations.



4. BELT SHEARS
No. 348—Cuts heavy belting, leather or fabric composition easily – also cable, flower and plant stems. Large, comfortable, heavy duty shears, blunted for safe carrying and maximum protection.

Clauss
FINE CUTLERY SINCE 1877

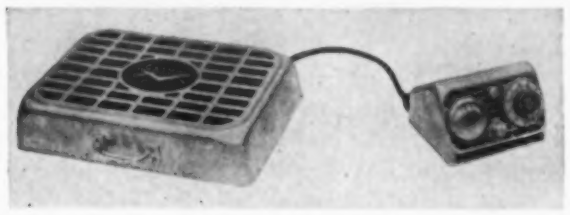
HOT HAMMER-FORGED

THE HENKEL-CLAUSS CO., Fremont, Ohio
New York Office—1107 Broadway

▲ For more details circle **NED-333 D4** on enclosed inquiry slip ▲

ELECTRONIC SCALE portable unit weighs objects up to 40,000 lb, indoors or outdoors

An electronic scale with dimensions no larger than those of a brief-case can be used to weigh objects up to 40,000 lb. The 35-lb portable unit consists



essentially of a small handle-equipped platform containing the electronic weight sensing element and a separate dial connected to the platform by an electric cable. Dial can be placed at the weighing platform or installed for remote reading.

Sensing element is a tubeless electrical unit sealed in a steel case. Scale is plugged into a 110-v outlet or connected to a suitable battery. It can be used outdoors as the scale is unaffected by weather, temperature or shock. Weight sensing elements can be built into equipment such as lifting forks, conveyors, assembly lines and wheels. Made by **Control Cells Corp.**, Dept. C, 511 N. Hillside, Wichita 6, Kans.

▲ For more details circle **NED-334 D4** on enclosed inquiry slip ▲

ELECTRONIC COMPUTER designed for general purpose use in science, business and industry

Equally adaptable to scientific, industrial and commercial problems which can be reduced to numerical terms, model 203 digital computer will solve problems ranging from aircraft flutter studies and boiler design to interest-rate calculations and geophysical data reduction. It combines a magnetic-drum type "memory" with a wide choice of input and output methods ranging from standard punched card techniques to special photo-electric readers. Speed of operation ranges from divisions at an average rate of 85 per second to additions at 500 per second. Maximum storage capacity of the memory section is 1,600,000 ten-digit words.

Maintenance is facilitated by built-in test circuits and controls, standard quickly replaceable plug-in components and a maintenance panel. Unit can be operated by comparatively unskilled personnel after it is set up for individual problems. Made by **Consolidated Engineering Corp.**, Sierra Madre Villa & La Tierra St., Pasadena 8, Calif.

▲ For more details circle **NED-335 D4** on enclosed inquiry slip ▲

...of cutting production costs!

How does this simple act of *preplacing* a ring of EASY-FLO low-temperature silver brazing alloy cut production costs?

It's the key factor in a method of joining metals that reduces brazing to push-button simplicity and assures a steady stream of soundly brazed parts — with easily trained labor doing the whole job.

Will preplacing cut your production costs?

Without obligation one of our field engineers will look over your metal joining work and give you the answer. Just write and say when.

At the ASTE TOOL SHOW, Philadelphia
SEE the preplacement method in action on an actual production brazing setup. Also many other examples of silver brazing. Talk over your metal joining problems with our brazing engineers.
BOOTH 613

For the full facts in print, write for a copy of Bulletin 20

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

▲ For more details circle **NED-336 D4** on enclosed inquiry slip ▲

PEERLESS PROVIDES *"Private"* MOTOR FACILITIES

If you wish you had your own motor department to build exactly what you want, you'd best talk to Peerless. We're set for short production runs and big scale engineering. Together, we'll solve your "spec" problem and set production and delivery dates to suit your needs. To get started, call Peerless. Talk to our engineers. There's no obligation to you. You'll be joining a blue ribbon roster of American industries that consider Peerless as their own motor department.

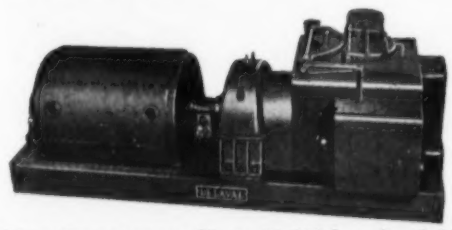
Ralph Kroehle
President

THE PEERLESS ELECTRIC CO. • W. MARKET ST., WARREN, OHIO
MOTORS FANS BLOWERS

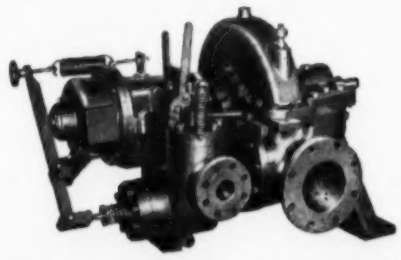
▲ For more details circle **NED-337 D4** on enclosed inquiry slip ▲

DE LAVAL *can help cut power costs*

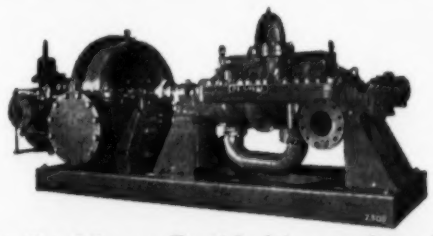
You can make important operating economies in your power house with dependable, efficient De Laval equipment. That's because De Laval turbine generators, mechanical drive turbines, boiler feed pumps and centrifugal pumps are designed for long, low-cost service. If you plan to modernize or expand your present facilities, consult a De Laval field representative or ask for the De Laval catalogs or bulletins listed below.



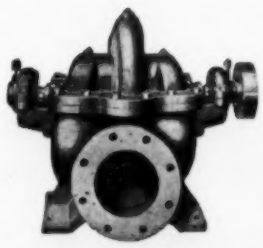
Turbine Generators Up to 11,500 kw. Available in automatic extraction designs. *Send for De Laval Catalog 4200A.*



Mechanical Drive Turbines For induced and forced draft fan drives, condensate and circulating and boiler feed pump drives. New De Laval HCB turbine available from stock. *Send for Bulletin 4206.*



Boiler Feed Pumps Furnished in a variety of designs and sizes to meet any boiler feed service. *Send for De Laval Bulletin 1502.*



Single Stage, Double Suction Centrifugal Pumps for condenser circulating and general services are available in capacities from 50 to 75,000 gpm. *Send for De Laval Bulletin 1002.*

DL-338

DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey

▲ For more details circle **NED-338 D4** on enclosed inquiry slip ▲

SAVE TIME • STEPS • MATERIALS with the ONE HAND TACKER

HANSEN

• FASTER
• BETTER } Tacking
at
• LESS COST

ENGINEERED FOR SERVICE

FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip. Leaves one hand free.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses — screens, insulation, TV wires, etc.

AT LESS COST! Hansen saves *time, steps* and *materials* — operates faster — saves back-tracking — ready for instant, continual use.

USE ONLY GENUINE HANSEN STAPLES IN THE BLUE BOX — *for faster, smoother tacking and better performance!* Staples in 80 sizes. Tackers in 36 models.

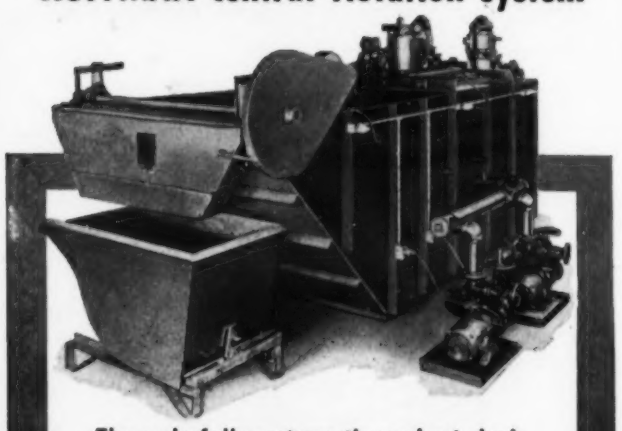
A. L. HANSEN MFG. CO. Request Booklet ...TODAY

5065 RAVENSWOOD AVE., CHICAGO 40, ILL.

For more details circle NED-340 D4 on enclosed inquiry slip

THOUAND IN $AVING$

can be yours with a HOFFMAN central flotation system



The only fully automatic coolant clarification process on the market today!
Effectively removes waste solids from water and soluble oil coolants!
Models from 20 to 1,500 g.p.m.!

Every metal-working day machinist man-hours formerly lost to down-time are being saved, expensive cutting tools assured a longer life, and sump cleaning and other maintenance costs are being slashed! How? With the Hoffman Central Flotation System that hundreds of plants are using for automatic, centralized removal of chips and grit from coolants.

THESE ARE THE RESULTS

- Increased Production
- Lower Maintenance Costs
- Oil and Coolant Savings
- Longer Tool Cutting Life
- Uniform Quality Control
- Improved Finish

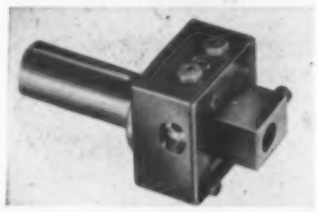
HERE'S PROOF

An annual saving of $71,942.61! Actual experience reported by International Harvester Company, Chicago, Illinois, after it installed a Hoffman Flotation System. Write today for Bulletin FSP3 for the complete International Harvester Case Study giving full details.

Hoffman
INDUSTRIAL FILTRATION EQUIPMENT & SERVICE
U. S. HOFFMAN MACHINERY CORP., 225 LAMSON STREET, SYRACUSE 6, N. Y.
In Canada: Canadian Hoffman Machinery Co., Ltd., Newmarket, Ont.

For more details circle NED-341 D4 on enclosed inquiry slip

BORING HEAD
for screw machines, turret lathes



Deep or shallow boring with the No. 1-50 boring head is made possible by off center lead screw which permits bar length to be easily adjusted. Design minimizes chatter and spring and eliminates the necessity for various length bars. Device is usable in automatic screw machines and small turret lathes. Other features include direct reading adjustment, calibrated dial on lead screw divided into 0.001-in. increments and preformed high speed steel triangular tool bits. Solid tungsten carbide, Stellite and Tantung preformed bits are also available. Made by **Everede Tool Co.**, 2002 N. Parkside Ave., Chicago 39, Ill.

For more details circle NED-342 D4 on enclosed inquiry slip

THREADING & KNURLING TOOL
for single spindle automatics

Knurling and thread rolling tool for single spindle automatics is designed to permit operation close to the collet. It can be used on either front or rear cross slides, and is also adaptable for use on multiples, hand screw machines and turret lathes. Tool is available in three sizes with capacities from 0 to ¼ in., 0 to ¾-in. and ⅛ to 1¼-in. Made by **Boyar-Schultz Corp.**, 2110 Walnut St., Chicago 12, Ill.

For more details circle NED-343 D4 on enclosed inquiry slip

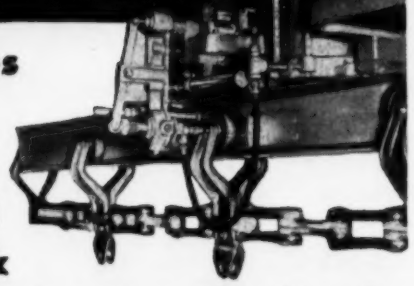
MILLING MACHINE
for vertical and angular work

Balanced rigidity, conveniently mounted switch and tool storage compartment in the base are features of the United States Vertical milling machine designed for vertical and angular milling, boring, dovetailing, etc. Vertical table has a 9½ x 36-in. working surface and quill travel is 5½ in. Entire head is balanced by mounting the motor behind the supporting column. Floor space required is 60 x 75 in. Made by **Cincinnati Mfg. Corp.**, U. S. Burke Machine Tool Div., Brotherton Rd., Cincinnati 27, O.

For more details circle NED-344 D4 on enclosed inquiry slip

NEW! ALEMITE AUTOMATIC CONVEYOR TROLLEY WHEEL LUBRICATOR

Lubricates every wheel on both sides of the track



without stopping the line!

- No lubrication downtime
- Requires no floor space
- Reduces work spoilage
- Eliminates lubrication hazards
- Serves 3", 4", and 6" wheels at speeds up to 75 ft. per minute
- Fits right into existing line
- Lubricates over four miles of wheels on one filling

goes to work at the flip of a switch!

Write for full details
ALEMITE
Dept. NED-44, 1850 Diversey Parkway
Chicago 14, Illinois
A PRODUCT OF SW STEWART WARNER

For more details circle NED-345 D4 on enclosed inquiry slip

WOVEN WIRE CONVEYOR BELTS!

Automation—*continuous, automatic production*—is provided here by this Cambridge Woven Wire Conveyor Belt carrying optical glass through high temperature annealing.

Cambridge belts can help increase automation in your plant, too. They're all metal, and can be woven from any metal or alloy. Thus, they're impervious to damage from heat, cold or corrosive conditions. Open mesh allows free circulation or drainage of process atmosphere or solution. Available in varied specifications for varied loads, and with special attachments to hold bulk materials on the belt during flat or inclined movement.

Get the full story—FREE! Write today for your copy of technical manual of belt applications. Or call in your Cambridge Field Engineer. See "Belting-Mechanical" in your classified phone book, or write direct.

The Cambridge Wire Cloth Co.
WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS
Department C
Cambridge 4, Maryland
—OFFICES IN LEADING INDUSTRIAL AREAS—

For more details circle NED-346 D4 on enclosed inquiry slip

New! Low-Cost! Wide-Range!
VARIABLE Speed Sheaves
Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

● Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

- Standard V-belts
- Automatic belt alignment
- Fixed shaft centers
- LOW COST

Write FOR FREE BULLETIN
SPEED SELECTOR INC
118-N NOBLE COURT • CLEVELAND 13, OHIO

For more details circle NED-347 D4 on enclosed inquiry slip

fabricated from POLYPENCO® / nylon shapes

Immediate delivery of POLYPENCO nylon rod, tubing, strip and slab. We'll help you fabricate.

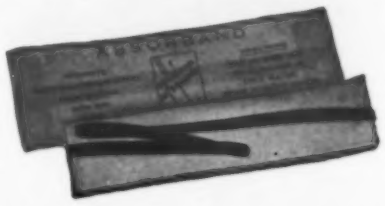
- Make one part or hundreds economically on standard metalworking tools
- Reduce wear on gears, bearings, gaskets, cam followers, etc.
- Eliminate lubrication
- Eliminate corrosion on exposed surfaces
- Eliminate backlash and noise
- Get top performance in every part with quality-controlled Polypenco nylon shapes

POLYPENCO NYLON
WRITE FOR GENERAL BULLETIN
nylon and Teflon*—other non-metallic/stock shapes
finished parts also available to your specifications
The POLYMER CORPORATION of Penna. • Reading, Penna.
*trademark for Du Pont tetrafluoroethylene resin

For more details circle NED-348 D4 on enclosed inquiry slip

HEAT WAVE AHEAD!—stop perspiration hazards with "Absorband" felt sweat bands

Summer heat is becoming more intense says the January Coronet Magazine. You know when the thermometer "shoots" up to 95 or 100 that the heat wave is here. It brings perspiration, discomfort, slowdown of work and loss of valuable time.



To largely overcome this hazard, every summer more and more employers provide their employees with the low-cost No. 440 Sellstrom "Absorband", made of the finest obtainable absorbent white felt treated to take in a great deal more perspiration than ordinary felt.

When saturated with perspiration, it can easily be rinsed in water, wrung out and used again. It fits snugly on the forehead and is kept in place by a flat elastic band.

During the past several years the demand for "Absorband" has increased so greatly that we were forced to put it back into production during the middle of the hot weather season. This year don't take the chance of being unable to get these sweat bands when the thermometer reaches 95 or 100. Order now—and order enough for the entire summer season.

No. 440—Absorband. Each in an individual envelope. Per dozen $1.92.

Every "Absorband" pays for itself a dozen times because it increases work efficiency, largely eliminates perspiration blues. Order from your dealer or from **Sellstrom Manufacturing Company,** 654 North Aberdeen St., Chicago 22, Ill. —*Advt.*

▲ For more details circle **NED-349 D4** on enclosed inquiry slip ▲

SIMPLICITY AND INGENUITY have made

American STORAGE RACKS

First Choice

here's an exclusive American feature

American Tubular Storage Racks are designed to meet practically every storage need. They are used in every type of business, large and small. Get the facts on American Racks before you decide on any type rack. Send for catalogue.

AMONG AMERICAN USERS ARE:

Atomic Energy Commission
Aluminum Co. of America
General Electric Co.
General Motors Corp.
I. B. M.
Parke-Davis Co.
S. S. Kresge Co.
Western Electric Co.

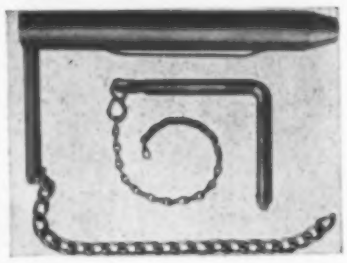
Send for Catalogue

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION
5959 Linsdale • Detroit 4, Michigan

▲ For more details circle **NED-350 D4** on enclosed inquiry slip ▲

CLEVIS PINS for one-handed application



Designed so that they can be inserted and removed with one hand, demountable snap-in clevis pins are available in a wide variety of types and sizes for light and heavy duty applications. Materials and construction resist weathering and corrosion in outdoor use in scaffolding. Type used for locking together telescoping tubing is designed with latching mechanism inside the tubing. Made by **Marvel Industries, Inc.,** Dept. C, Sturgis, Mich.

▲ For more details circle **NED-351 D4** on enclosed inquiry slip ▲

TABLET ARM CHAIR for in-plant classroom use

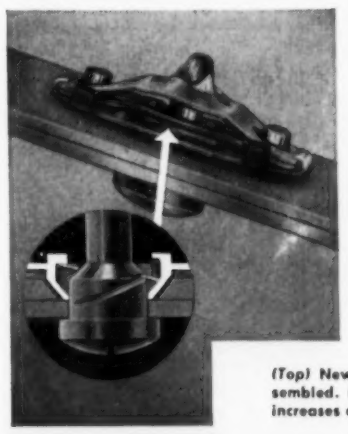
Arm of this tablet arm chair is surfaced with tan linen pressure-laminated plastic which provides a good writing surface. Seat and back are made of selected kiln-dried maple and birch, and have natural finish. Chair is designed for in-plant meeting and classroom use. Tubular steel frame and arm support are finished in beige Tufflex enamel. Chair has nickel plated rubber-cushioned glides. Book box under seat is optional. Made by **Empire Furniture Mfg. Co.,** 530 Main St., Clinton, Mass.

▲ For more details circle **NED-352 D4** on enclosed inquiry slip ▲

REPLACEMENT FILE BAND made in variety of types

Combination of miters, bevels and half-lap end construction enable the segments of this replacement file band to align themselves and join in such a way as to present the equal of a solid file to the work. The angular joint between the segments does not cause chatter as the laps pass the work zone. Chip clearance spacers under each file are included in the design which also features easily and quickly operated end lock. Various file band types are available. Made by **Boice-Crane Co.,** 951 Central Ave., Toledo 6, O.

▲ For more details circle **NED-353 D4** on enclosed inquiry slip ▲



NOW! Shear strength *twice* that of any other fastener!

NEW Lion "Hi-Strength" design fills every need for parts that must be fastened, taken apart, buttoned tight quickly

(Top) New Lion "Hi-Strength" fastener assembled. *(Inset)* Beveled counter sink which increases area over which stress is distributed

Here's a new and better answer to your problem of metal-to-metal fastening where high shear stress and vibration are factors.

It's the Lion "Hi-Strength" fastener, combining speedy quarter-turn opening and closing with a shear strength of 4750 lbs!

This "Hi-Strength" fastener is remarkably strong because shear load is evenly distributed over the area of the fastened parts. The secret lies in the *beveled* counter sink in the sheet and the nut.

In addition to high shear strength, its tensile strength is 3000 lbs. Sheet separation is zero up to 4750 lbs. Misalignment is as much as .125 with high shear qualities. Regardless of the number of times it's opened or closed, there is no wear. It cannot be overtorqued (up to 3750 lbs.). It cannot be fastened incorrectly. It is no larger than a standard No. 5!

To test it yourself, write for a free mounted working sample. Just drop us a line on your company letterhead.

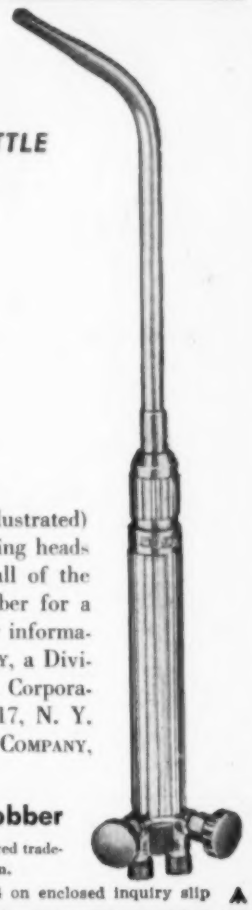
LION FASTENERS, INC. 600 Main St., Honeoye Falls, N.Y.
In Canada: A. T. R. Armstrong Co., 50 St. Clair Avenue West, Toronto

▲ For more details circle **NED-354 D4** on enclosed inquiry slip ▲

HERE'S WHY

PUROX Trade Mark

BLOWPIPES *COST SO LITTLE TO USE AND MAINTAIN*



SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The Purox W-202 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto.

get it from your LINDE jobber

The terms "Purox" and "Linde" are registered trademarks of Union Carbide and Carbon Corporation.

▲ For more details circle **NED-355 D4** on enclosed inquiry slip ▲

NEW Aerovent Mancooler FANS

for spot cooling of men and machines
drying • exhausting • general ventilating

Beat heat and production lags this summer with Aerovent Portable Mancoolers. Pedestal, cradle and wheeled models—all adjustable for 180° directional air discharge. Heavy-duty welded construction. Sizes 24" to 48" for capacities to 40,000 C. F. M.

other models for every air-moving requirement

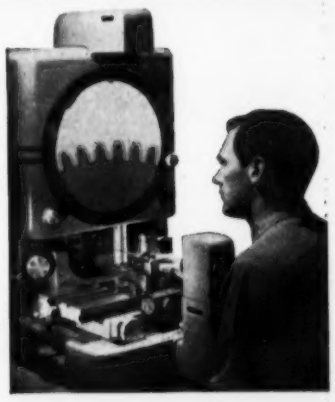
All Aerovent Fans are rated in accordance with the Standard Test Code and U.S.D.C. Comm. Std. CS178-51.

Ask for free folder M-50!

Aerovent Fan Company, Inc.
Ash and Blake Streets *Piqua, Ohio*

▲ For more details circle **NED-356 D4** on enclosed inquiry slip ▲

For fast, accurate inspection and measurement



Fast, accurate, and requiring little skill to operate, the Kodak Contour Projector may well be the answer to your inspection, assembly, or measurement problems.

Few objects are too small or complicated for rapid, complete inspection under magnification with a Kodak Contour Projector. And you can handle large parts, too, for there's an unvarying 8 inches between lens and object at all magnifications from 10× to 100×. Surface illumination for checking blind holes, cavities, or other surface features is available by the mere flick of a switch.

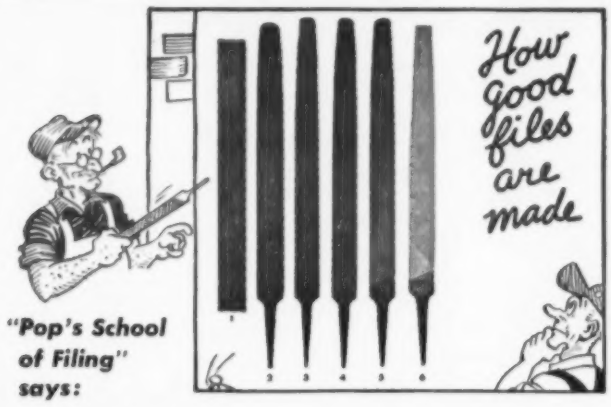
To learn how the Kodak Contour Projector can be used in your plant, send for Booklet F1-68.

Special Products Sales Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Kodak

▲ For more details circle **NED-357 D4** on enclosed inquiry slip ▲



"Pop's School of Filing" says:

Nicholson file manufacture extends far beyond the factory—to the steel mills, to the metallurgical laboratory, to industrial users' plants.

Steels, made to specifications, come in bars of various cross-sections; are analyzed, tested, cut to working length (1).

Forging shapes body, point and tang (2).

Annealing, laboratory-controlled, "conditions" steel for uniform texture and for cutting.

Smoothing blank by grinding and drawfiling removes scale, assures clean, uniform teeth (3).

Cutting by Nicholson-perfected machines produces precise overcut (4) and upcut (5).

Hardening by scientific processes assures strong, hard, non-brittle teeth.

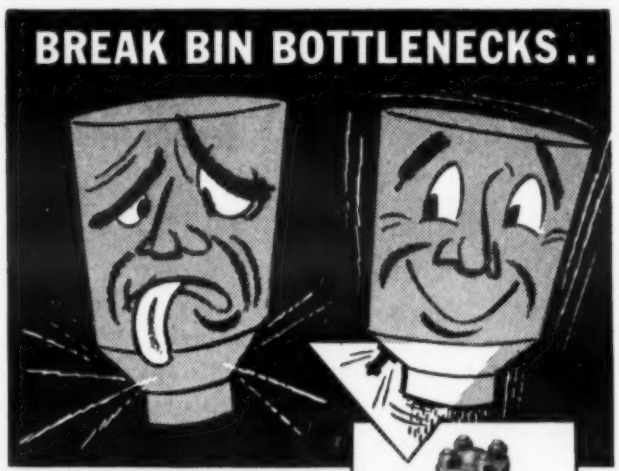
Finishing (6) includes sandblasting, softening tang, oiling, final-testing. . . . You get the longest lasting files human skill can produce!

Industrial Distributors are proud to offer you Nicholson or Black Diamond files.

Nicholson File Co., Providence, R. I.
(In Canada: Nicholson File Company of Canada Ltd., Port Hope, Ontario)

NICHOLSON U.S.A. **NICHOLSON** *A FILE FOR EVERY PURPOSE*

BREAK BIN BOTTLENECKS..



with SPO air vibrators

For steady flow of powdered and granular materials from bins, hoppers and chutes, specify SPO air vibrators. Key to their superior performance is a special corrosionproof cylinder liner. It assures (1) full-power starting, (2) thorough lubrication, (3) high-speed operation, (4) low air consumption, and (5) long life. Types and sizes to meet every need.

Write for Bulletin 50 for complete details.

1836-51

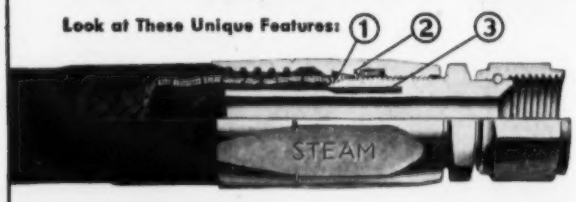
SPO INCORPORATED
6475 Grand Division Avenue • Cleveland 25, Ohio

▲ For more details circle **NED-358 D4** on enclosed inquiry slip ▲

Aeroquip

"little gem" FITTINGS MAKE STEAM HOSE LINES LAST LONGER

Look at These Unique Features: ① ② ③



Reusable *"little gem"* fittings assure positive attachment without harmful compression of hose inner tube. They never need tightening or adjusting after assembly. *"little gem"* fittings and Aeroquip burst-proof steam hose are matched for guaranteed performance. Write for complete information.

① Knife-like spur separates inner tube from wire braid.

② Clamping action is exerted on reinforcing wire braid only.

③ Lip seal is formed by end of inner tube in annular chamber.

"little gem" is an Aeroquip Trade Mark

AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

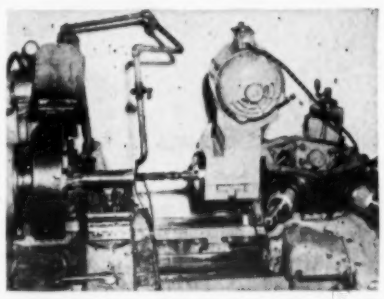
▲ For more details circle **NED-359 D4** on enclosed inquiry slip ▲

ARMORED FACTORY DOORS can be bumped open without damage

Factory access doors are built to withstand abuse from fork lift trucks and other equipment and are designed so that they can be bumped open without damage. Known as DuraDors, they are rigid lightweight plywood reinforced with steel and completely covered with a tough soft rubber. Heavy hinges have a total span of more than half the door, and are located so that impact on the door bottom is dynamically counterbalanced. Door edge is protected with ¾-in. thick soft rubber and windows are shatter-proof Lucite. Doors will not sag or warp and are corrosion resistant, permitting use in chemical plants and such industrial locations as pickling and plating rooms. Made by **American Hard Rubber Co.,** Dept. NED, 93 Worth St., New York 13, N. Y.

▲ For more details circle **NED-360 D4** on enclosed inquiry slip ▲

SELF-POWERED TOOL HEAD improves turret lathe versatility



Illustrated Turret-Master powered tool head for turret lathes provides a motorized spindle mounted at any of the turret tool positions with either straight shank or plate adapters. It is available in three sizes from ½ to 3 hp and can be set up for milling and drilling operations, off center if desired. Boring and reaming can also be readily accomplished. Since both work and tool can be rotated in opposite directions, leading-off in drilling is minimized. Twelve spindle speeds are provided in three speed ranges: 25 to 250 rpm; 50 to 500 rpm and 100 to 1000 rpm. Unit is compact so as not to interfere with the work or with other turret tools. It is also available with a vertical spindle for many milling operations. Made by **Master Mfg. Co.,** Hutchinson, Kans.

▲ For more details circle **NED-361 D4** on enclosed inquiry slip ▲

Pulverizers & Feeders

Pulva Corp.—Descriptive data on Pulva-Sizers, for fine grinding, granulating, wet milling or close particle size control and on Com-Bin Feeders designed to feed damp, oily, difficult-to-feed materials are presented in 16-page illustrated catalog. Design features of each machine, application data, engineering drawings and photos of various models are included.

▲ For more details circle **NED-362 D4** on enclosed inquiry slip ▲

Hold an eel with Stanzoils®

Super-Safe Grip PIONEER

NL-34, light weight Knit lined, neoprene coated. Curved fingers. Super-safe grip Length 10½".

Non-slip grip on Stanzoils handles wet, slippery objects as if dry. Speeds work—cuts accidents. PIONEER Processed *milled* neoprene gives extra hours use in contact with oils, acids, alkalies, solvents—has higher tensile strength, greater tear resistance than any other oil-proof rubber. Only a liquid-tight glove gives positive physical protection from conditions causing dermatitis.

32 PIONEER styles, weights, sizes and colors. Send for Stanzoil catalog—shows quickly how to pick the best, most economical glove for each job.

STANZOIL PIONEER

The PIONEER Rubber Company 234 Tiffin Road Willard, Ohio

"Quality Gloves for 35 Years"

▲ For more details circle **NED-363 D4** on enclosed inquiry slip ▲

T&B ENGINEERED

for ½" to 6" Standard Rigid Conduit

NEW T&B INSULATING BUSHINGS

TOUGH

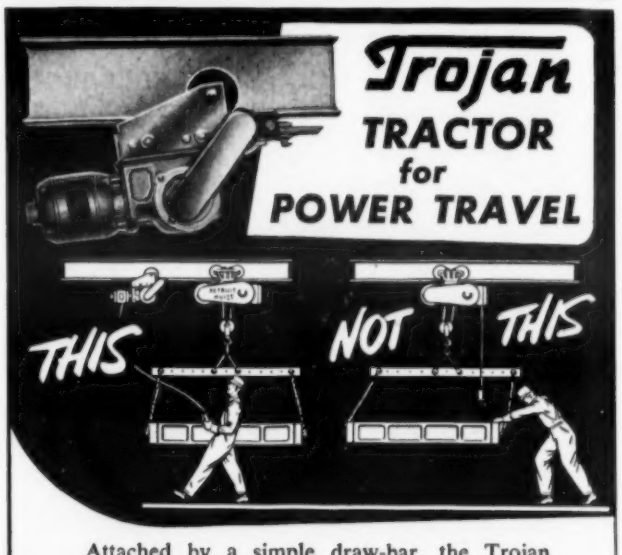
Bend 'em Pound 'em Twist 'em

These new T & B Insulating Bushings are designed to withstand rough treatment. Made of tough cellulose acetate butyrate, they're the toughest Insulating Bushings available today.

Use T & B's new Insulating Bushing wherever NEC requires protection for cable sheath or wire insulation against damage from burred or unevenly cut conduit . . . or for the ultimate in protection even where not required by code. Send today for a free sample and descriptive literature. T45

THE THOMAS & BETTS CO.
Incorporated
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada
MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

▲ For more details circle **NED-364 D4** on enclosed inquiry slip ▲



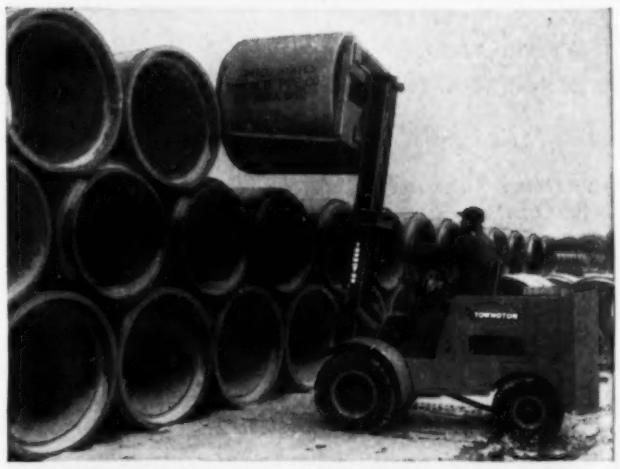
Attached by a simple draw-bar, the Trojan Tractor quickly converts existing, slow, hand-pushed hoists and light overhead cranes into fast, power-traveled units. Save time, effort; reduce material handling costs.

• *Ask for Trojan Tractor Bulletin 810 today.*

DETROIT HOIST & MACHINE CO.
8267 Morrow St., Detroit 11, Mich.
Designers and Manufacturers of Hoists and Cranes

Since 1905

▲ For more details circle **NED-365 D4** on enclosed inquiry slip ▲



Operating over unpaved ground, this TOWMOTOR stacks high, reduces size of storage area for leading manufacturer of concrete pipe.

PIPELINE to PROFITS. You are doing a grand job now, but if you feel there is room for improvement, consider your materials handling. No other operation offers so great an opportunity for saving time, labor, and money! And no other method or machine moves as many tons per dollar as TOWMOTOR Fork Lift Trucks. Whatever you make, warehouse or handle, TOWMOTOR with its dozens of special attachments, its rugged economy, and its operator-ease is today's pipeline to greater profits for the boss. Send for the "Towmotor Portfolio for Operating Men." TOWMOTOR CORPORATION, Div. 2504, 1226 East 152nd Street, Cleveland 10, Ohio.

TOWMOTOR THE ONE-MAN-GANG ®

FORK LIFT TRUCKS and TRACTORS
Since 1919

TOWMOTOR ENGINEERED FOR QUALITY PERFORMANCE

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THE CINCINNATI Wet Abrasive Cut-Off Machine

Cut Down ON CUT-OFF TIME!

Cut any metal, solids or tubing fast and accurately! Capacity up to 2-¼" in solids, 3-½" in tubing. Straight or angle cuts up to 45°. And look at these speeds: 2" bar stock in 15 seconds . . . 2" tubing, 3/32" wall, in 10 seconds . . . 2" angle iron, ⅛" thick, 45° angle, in eight seconds. Special features include Cincinnati's exclusive water nozzle, insuring proper coolant flow for longer wheel life; and foot-operated vise, freeing operator's hands for faster production. Write today for Bulletin 54U.D.

TRADE The Cincinnati MARK

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
CINCINNATI 8, OHIO

▲ For more details circle NED-367 D4 on enclosed inquiry slip ▲

Specify ESSEX EXTRA TEST TEFLON MAGNET WIRE

WIRE SX PRODUCTS

for Your Highest Temperature Applications

★ CAN WITHSTAND 250° C for short periods of time; or 200° C continuously.

★ SUPERIOR RESISTANCE to acids, solvents, chemicals and moisture.

★ GOOD SPACE FACTOR, flexibility and abrasion resistance.

Teflon is the DuPont trademark for Polytetrafluoroethylene enamel.

ESSEX WIRE CORPORATION
FORT WAYNE 6, INDIANA

WAREHOUSES* AND SALES OFFICES: *ATLANTA, GEORGIA, BOSTON, MASS.; *CHICAGO, ILL.; CLEVELAND, OHIO; DALLAS, TEXAS; DAYTON, OHIO; *DETROIT, MICH.; HARTFORD, CONN.; INDIANAPOLIS, IND.; *KANSAS CITY, MO.; *LOS ANGELES, CALIFORNIA; MILWAUKEE, WISC.; MINNEAPOLIS, MINN.; *NEWARK, N. J.; *PORTLAND, OREGON; UPPER DARBY, PHILADELPHIA, PENNSYLVANIA; ROCHESTER, NEW YORK; *ST. LOUIS, MISSOURI; *SAN DIEGO, CALIFORNIA; *SAN FRANCISCO, CALIFORNIA

▲ For more details circle NED-368 D4 on enclosed inquiry slip ▲

INSIST ON THE BEST...

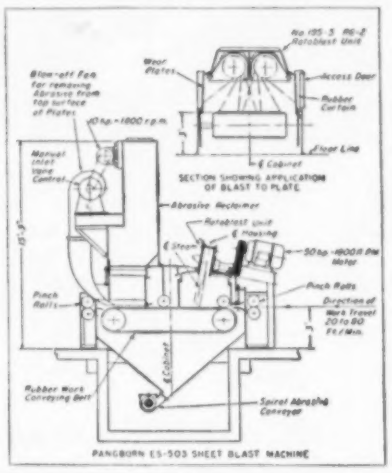
Zallea
DUO-EQUALIZING EXPANSION JOINTS
Request Bulletin 351.
ZALLEA BROTHERS
818 LOCUST STREET
WILMINGTON 99, DELAWARE

WORLD'S LARGEST MANUFACTURER OF EXPANSION JOINTS

▲ For more details circle NED-369 D4 on enclosed inquiry slip ▲

SHEET BLASTING MACHINE cleans up to 80 lineal fpm

Designed for cleaning steel sheet and plate up to 54-in. wide, ES-503 abrasive blasting machine handles material at production speeds ranging from 20 to 80 lineal feet per minute. It is especially suitable for surface treating hot-rolled steel to give improved finish and to provide a superior paint bonding surface. Unit is equipped with two wheels which throw 160,000 lb of abrasive per hour, and is automatic in operation. All abrasive is removed from the sheet before discharge from the machine, and is conveyed by a spiral conveyor and an elevator to a separator for recycling. Unit is available with smaller blasting wheels for lower production requirements. Made by **Pangborn Corp.**, 140 Pangborn Blvd., Hagerstown, Md.



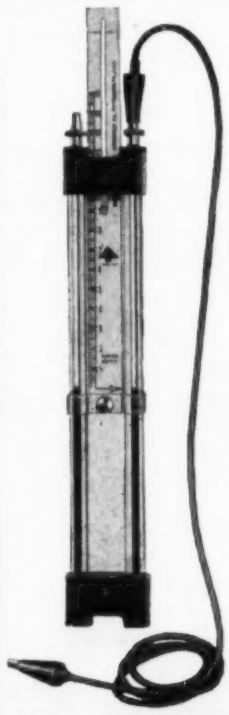
PANGBORN ES-503 SHEET BLAST MACHINE

▲ For more details circle NED-370 D4 on enclosed inquiry slip ▲

MILLING MACHINE all-geared 16-spindle speed model

Sixteen spindle speeds from 39 to 1500 rpm (31 to 1200 rpm optional) and 12 independent longitudinal, vertical and transverse power feeds are built into the Swedish-made Sajo model 53 all-geared milling machine. It is comparable in capacity to a No. 2 light duty horizontal milling machine and has a 41 11/32 x 9¼-in. table working surface. Machine features spindle speed and table feed selectors on direct reading dials, spindle start-stop-brake lever adjustable for easy accessibility from operating position, safety clutch and outside adjustment of split nut to eliminate backlash in climb milling. Both plain and universal types are offered with standard attachments and accessories and inch system screws and dials. Electrical equipment is designed for service in the United States. Available from **Austin Industrial Corp.**, 76 Mamaroneck Ave., White Plains, N. Y.

▲ For more details circle NED-371 D4 on enclosed inquiry slip ▲



Gauge supplied with 4 ft. rubber hose and fitting for test connection.

Gauge with scale 0-7" W $12.40

Gauge with reversible scale — 0-15" W on one side, and 0-8.5 ounces per sq. in. on other side. $15.80

BACHARACH *Manometer*

- Body is transparent, high-strength plastic extrusion.
- Scale features easy readability; made of white plastic, with black scale divisions and numerals; 1/10" W scale divisions.
- Indicating Fluid of 1.9 specific gravity permits pressure readings to 1/10" W over entire scale on gauge of convenient size. Fluid is colored blue for visibility; is non-freezing to low temperature. Gauge is furnished filled ready for use.
- Shut-off Valves are conveniently opened or closed by rotation of knurled discs.
- Scale is adjustable up or down to permit direct reading of pressure.
- Blow-over seal automatically prevents spilling of fluid when gauge is subjected to pressure surges in excess of scale range.
- Body serves as reel for rubber hose.
- For convenient attachment of gauge to pipe an adjustable mounting clamp is available as optional accessory.

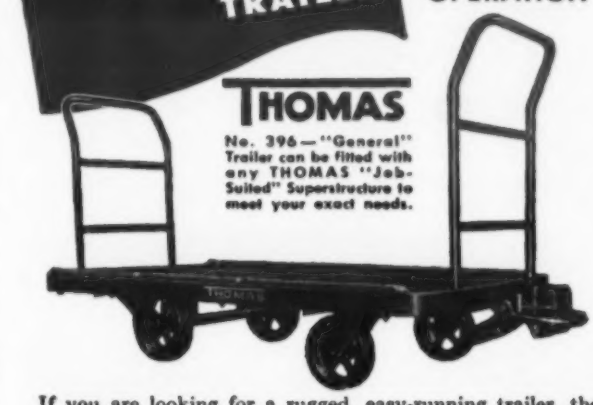
Write for Leaflet 830

BACHARACH INDUSTRIAL INSTRUMENT COMPANY
7301 Penn Avenue, Pittsburgh 8, Pa.

▲ For more details circle NED-372 D4 on enclosed inquiry slip ▲

2-TON CAPACITY INDUSTRIAL TRAILER

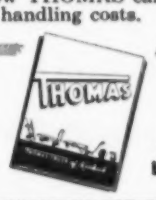
FOR TRACTOR-TRAILER OPERATION



THOMAS
No. 396—"General" Trailer can be fitted with any THOMAS "Job-Suited" Superstructure to meet your exact needs.

If you are looking for a rugged, easy-running trailer, the THOMAS "General" is the trailer for you. A choice of 5 platform sizes that can be "Job-Suited" with superstructures to carry your loads more efficiently and economically. Available with steel or rubber-tired wheels, with Hyatt roller bearings and automatic or manual couplers. Before you buy an Industrial Trailer find out how THOMAS can increase your production and lower your handling costs.

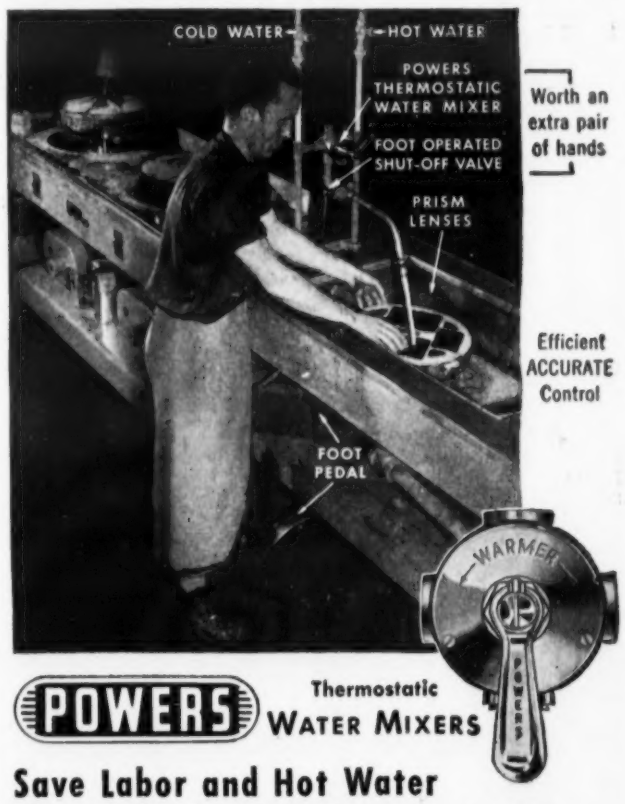
THOMAS TRUCK AND CASTER COMPANY
468 Mississippi River
KEOKUK, IOWA



Send for Free Literature

▲ For more details circle NED-373 D4 on enclosed inquiry slip ▲

POWERS Control Helps argus CAMERAS, Inc. produce high quality precision lenses



Worth an extra pair of hands

Efficient ACCURATE Control

POWERS Thermostatic WATER MIXERS

Save Labor and Hot Water also Help Prevent Damage to Lenses

Photo above shows one of 75 washing operations in ARGUS CAMERAS, Inc. large modern lens polishing department. Here lenses are made for their popular line of cameras, projectors and optical instruments used in our nation's defense.

Combination of a Powers Type H Thermostatic Water mixer and a BRADLEY foot operated shut-off valve releases both of worker's hands for lens washing. Accurate control of water temperature prevents damage to lenses. Instant shut off of washing water by foot operated pedal prevents waste of hot water.

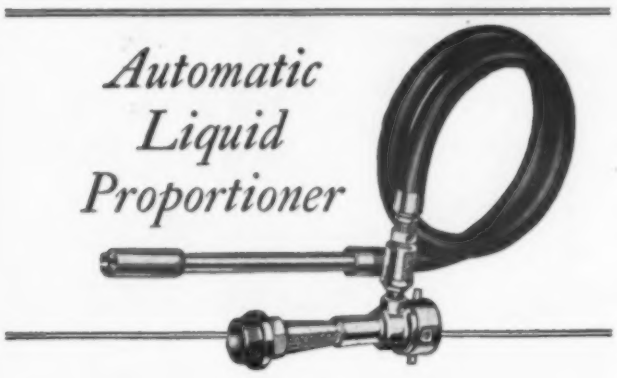
Double-Safety Feature of POWERS Water Mixer shown above: It *thermostatically* mixes hot and cold water and delivers the mixture at any temperature desired regardless of **pressure** or **temperature** changes in water supply lines. Failure of cold water instantly shuts off the delivery. Users often report accuracy of ± ½° F. Capacity 2 to 10 gpm @ 45 psi. *Write for Bulletin 365.*

Larger Capacity Water Mixers available up to 1200 gpm @ 45 psi. Write for Catalog WC. (b66)

THE POWERS REGULATOR CO., SKOKIE, ILL.
Offices in over 50 Cities, see your Phone Book • Established in 1891

▲ For more details circle NED-374 D4 on enclosed inquiry slip ▲

Automatic Liquid Proportioner



Are you feeding one liquid into another on a fixed percentage basis? If so, why not do it both automatically — and economically?

This Rockwood Eductor, used in fire fighting for automatically introducing 3 parts of Rockwood FOAM into 97 parts of water, can also be used for many other purposes. It is "tapped" into the line containing the basic liquid. Then it automatically introduces the other liquid into the line at a predetermined rate. Excellent for dust control and many other uses.

Send us your particular liquid-proportioning problem and Rockwood engineers will gladly show you whether the Rockwood Eductor can automatically solve it for you.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

Portable Fire Protection Division

44 HARLOW STREET, WORCESTER, MASS.

For more details circle NED-376 D4 on enclosed inquiry slip

THE NEW LEWIS "6" TODAY'S BEST BUY

IN PLASTICS INJECTION MOLDING MACHINES

The LEWIS "6" features high speed operation . . . maximum economy . . . greater capacity . . . positive safety. Designed for production molding of large projected area parts . . . this compact machine carries the work load of a considerably larger unit at a fraction of initial and normal operating costs.

Featuring the exclusive new "HYDRA-LOCK" clamp, the LEWIS "6" has the safest, most powerful hydraulic mold clamping device available today. "HYDRA-LOCK" develops a 200-ton clamping pressure in tenths of a second. In addition, this machine plasticizes up to 60 pounds per hour, and 7-ounce shots of polystyrene can be molded at the rate of 2-1/2 per minute.

For maximum efficiency and safety coupled with minimum maintenance . . . your best buy is a LEWIS "6" injection molding machine.

1897-LW

LEWIS

Write for Bulletin 102 for complete details

THE LEWIS WELDING & ENGINEERING CORPORATION

14 INTERSTATE STREET • BEDFORD, OHIO

For more details circle NED-377 D4 on enclosed inquiry slip

CONTROL KNOB
fits any shaft up to 1/4-in. diameter

Nylon from which this control knob is made provides high insulation between shaft and operator. The model 1431 knob for electric and electronic equipment is of the bar type and measures 3/4-in. diameter at skirt and 1 1/4 in. along the bar. Strength of the nylon plastic eliminates the need of a metal bushing. A tapped hole with set screw provides for locking on the shaft. Black and red knobs are available. Made by **Industrial Devices, Inc.**, 22 State Rd., Edgewater, N. J.

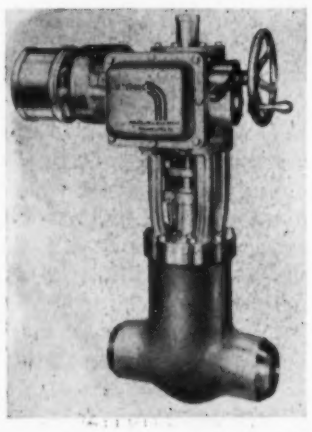
For more details circle NED-378 D4 on enclosed inquiry slip

SCREW ANCHOR EXPANDER
made in three widely used sizes

Lead screw anchors are rapidly and securely set flush with surface of masonry walls regardless of their thickness with this handy anchor expander. Hole is first drilled into masonry, either deep enough to accommodate anchor, or completely through wall. Screw anchor is then screwed onto expander and inserted into drilled hole. Head of expander is simply struck with hammer or mallet until anchor is secure in wall. Expander is offered for the three most widely used sizes of screw anchors. Made by **Greenlee Tool Co.**, 2136 Twelfth St., Rockford, Ill.

For more details circle NED-379 D4 on enclosed inquiry slip

VALVE CONTROL
improved for greater torque, thrust



Improved type SMA Limitorque automatic valve operator provides greater torque, thrust and stem capacity; easier declutching and handwheel operation; two-piece stem nut design, which permits changing unit from one valve to another; improved switch design and electrical arrangement; and torque control for both directions of stem travel, or just in single direction, if desired. Made by **Philadelphia Gear Works, Inc.**, 3600 G St., Philadelphia 34, Pa.

For more details circle NED-380 D4 on enclosed inquiry slip

ATTENTION DESIGNERS!

ONLY THE *New Advanced* CARTER CYLINDER GIVES YOU THESE FEATURES

CARTER

- Greater Power
- More Compactness
- Higher Safety Factors
- Less Maintenance
- More Versatility

. . . AND LOWER COST TOO!

The most "designable" cylinders in America today! That's what designers think about the new Carter line. They're so compact, powerful, foolproof, and reasonable in cost that they fit in anywhere. To make your product better, more dependable, and less expensive to build or maintain, check on the new complete Carter line today.

AIR

Send for your copy of the complete CARTER Air Cylinder Bulletin No. 100 for information on parts, prices, dimensions, specifications, and mounting styles.

HYDRAULIC

Free bulletins on both the CARTER 750 psi series and the 1500 psi hydraulic series. All essential information. Write for Bulletin 750 or Bulletin 1500, or both.

Carter Controls, inc.

2800 Bernice Road • Lansing, Illinois • Phone 1305

Delivery One Week on Most Models

For more details circle NED-381 D4 on enclosed inquiry slip

Get Rid of Dirt Quickly, Safely with O-B

COMPRESSED AIR BLOWGUNS

Convenient-to-use compressed air becomes even more convenient, and safer, when it's used through an O-B Compressed Air Blowgun. A heavy flange protects thumb-button and stem against accidental release. A strong brass spring assures positive closure. The short outlet makes the gun fast to respond and reduces possibility of breakage. Composition disc can be quickly replaced when necessary. Blowgun comes in three sizes -- 1/8, 1/4 and 3/8 inches. O-B also makes a sand blast attachment to use with the blowgun.

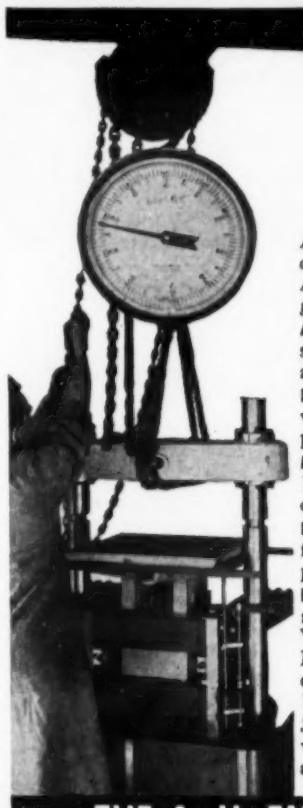
Ohio Brass also makes a complete line of bronze valves for industrial use. Write today for complete information.

4456-V

O-B VALVES Ohio Brass MANSFIELD OHIO, U. S. A.

For more details circle NED-382 D4 on enclosed inquiry slip

WEIGH . . .



MORE EFFICIENTLY with the All New

EMERY CRANE SCALE CS-10

A truly efficient materials handling tool combining Laboratory Accuracy with Freight Yard Ruggedness.

Accurate — 2/10 of 1% of scale capacity. 20% tare weight adjustment.

Reliable — Rugged unit in weatherproof case. No delicate parts. Unbreakable dial crystal.

Minimum Head Room — Only 19 1/8 in. additional height required.

Readable — 21 1/2 in. dial tilted forward 15°. Exclusive "bifocal" pointer.

Economical — No knife edges, no sticky seals, no bearings: NO WEAR. No maintenance needed. Model CS-10 comes in capacities of 10,000, 5,000, 2,000, and 1,000 lb.

Send Today For Bulletin 532, which gives complete information and prices.

THE A. H. EMERY CO.

CRANE SCALE DIVISION

NEW CANAAN 6, CONN.

For more details circle NED-383 D4 on enclosed inquiry slip

FROM ORIGINAL DESIGN — TO FINAL INSTALLATION . . .

Wheeler

LIGHTING ENGINEERING FOLLOWS THROUGH!

Available over the years to Architects, Industrial Engineers, Jobbers and Contractors at every level of field service, WHEELER FIELD SALES ENGINEERING is constantly at *your* service . . . ready to aid you in planning the best Lighting Layout for any standard Commercial or Industrial installation. And for special lighting problems, too, you can rely on Wheeler's unique technical assistance to provide the one best answer to your specific requirements.

Wheeler REFLECTORS

Distributed Exclusively Through Electrical Wholesalers

MADE BY SPECIALISTS IN LIGHTING EQUIPMENT SINCE 1881

275 CONGRESS STREET BOSTON 10, MASSACHUSETTS

For more details circle NED-384 D4 on enclosed inquiry slip

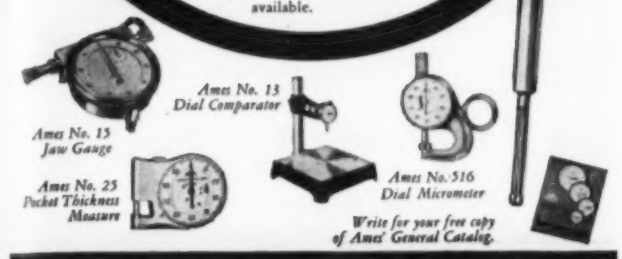
AMES

...the Preferred Small Hole Gauge No. 36

Skilled and unskilled employees can use this superbly designed two-point contact gauge to make quick, accurate, *impersonal* inspections of small holes for size, taper and roundness.

The spherical contact point automatically centers itself and indicates the true diameter at the point measured.

The Ames Small Hole Gauge No. 36 checks holes with 3/16" to 1" diameter, up to 2" deep. Longer lengths and special contacts to check irregular recesses, splines, available.



Write for your free copy of Ames' General Catalog.

Representatives in principal cities. B. C. AMES CO. *34 Ames Street Waltham 54, Mass*

Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

▲ For more details circle **NED-385 D4** on enclosed inquiry slip ▲

Now! An Interrupting rating in excess of 100,000 amperes

for every set of fuse clips

. . . simply by installing FUSETRON *dual-element* FUSES

After years of development work, recent tests verified by the Electrical Testing Laboratories of New York indicate that an interrupting rating of 100,000 ampere for FUSETRON fuses is a conservative one.

On circuits set to deliver in excess of 100,000 ampere, 30 to 600 ampere, 250 and 600 volt FUSETRON fuses on every test cleared the circuit without belching flame or venting hot gases and with comparatively little noise.

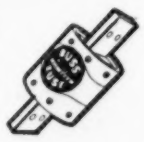
No Interference with Time-Lag

Remarkable results have been achieved. Interrupting capacity has been greatly increased while the time-lag characteristics of FUSETRON fuses has in no way been disturbed.

You get ALL THIS ADDED SAFETY without changing a panelboard or switch . . . PLUS the 10 Point Protection of FUSETRON dual-element FUSES.

For safe protection on loads above 600 and up to 5,000 ampere install BUSS Hi-Cap FUSES.

These fuses have unlimited interrupting capacity on circuits of 600 volts or less. Designed to give protection against dangerous overloads as well as excessively high fault current — yet their high speed operation on heavy shorts limits currents to safe values. When coordinated properly with FUSETRON fuses they will not open ahead of the fuse nearest to the fault.



ACTION THAT SAVES YOU MONEY

Delay may cost you far more in losses than replacing every fuse with a FUSETRON dual-element fuse on loads up to 600 amperes — and BUSS Hi-Cap Fuses on loads above that.

For blowing time charts and more information on FUSETRON dual-element Fuses and BUSS Hi-Cap Fuses write for Bulletins FIS and HCS.

BUSSMANN MFG. CO. *(Div. McGraw Electric Co.)*
University at Jefferson St. Louis 7, Mo.

▲ For more details circle **NED-386 D4** on enclosed inquiry slip ▲

SELF-LOCKING NUT
floating, one-lug type

Current requirements of specification AN-N-10 and proposed requirements of the new military specification covering self-locking nuts of all types are met by the series 3610 floating one-lug self-locking anchor nut. Series has been expanded to include the 5/16-24 NF-3 thread size. Features include narrow envelope, high push-off and torque-out strength. Made by **Nutt-Shel Co.,** Dept. NED, 811 Airway, Glendale 1, Calif.

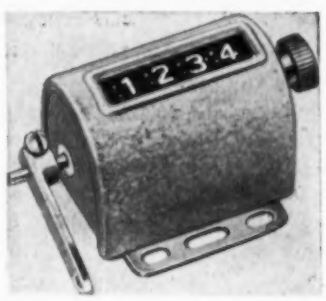
▲ For more details circle **NED-387 D4** on enclosed inquiry slip ▲

PNEUMATIC CONTROL
requires two-lever co-ordination

Consisting of an air valve and two extending levers, this pneumatic control is interconnected in such a manner that valve action is permitted only when both levers are operated. By a simple modification of a latch in the control, operating characteristics can be altered so that the two levers must be actuated simultaneously, in sequence of a given order or in sequence of any order to open the valve. Similar variety of conditions can be prescribed to close the valve. Control can be adapted to any type of equipment, is easily mounted and is 23½ in. long with levers. Maximum useable air pressure is 125 psi. Made by **Pantex Mfg. Corp.,** Pneumatic Design Dept., 521 Roosevelt Ave., Pawtucket, R. I.

▲ For more details circle **NED-388 D4** on enclosed inquiry slip ▲

RESET STROKE COUNTERS
for office machines, light equipment

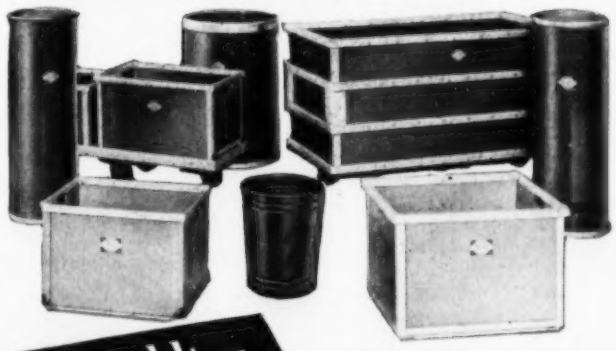


Small Junior King reset stroke counters are designed for built-in applications on numerous types of office machines and light production equipment. They are furnished in four-digit models with right or left-hand shaft extension and either top-coming or top-going arm action. Counter measures 1 15/16 x 1 7/16 x 1 46/64 in., has full length feet with elongated openings for mounting and aligning flexibility, large number wheels and gray hammerloid metal housing. One turn of reset knob resets all numbers to zero. Made by **Production Instrument Co.,** 700-12 W. Jackson Blvd., Chicago 6, Ill.

▲ For more details circle **NED-389 D4** on enclosed inquiry slip ▲

SEND FOR FREE CATALOG ON SPAULDING FIBRE RECEPTACLES

A complete line of tough, lightweight, shock-proof containers for storage and materials handling. Resistant to moisture, impact and abrasion. Won't splinter or corrode.



Spaulding

Boxes, barrels, trays, trucks in all sizes and weights.

SPAULDING FIBRE CO., INC., DOVER, N. H.

Please send me by return mail your catalog on Spaulding's complete line of Fibre receptacles.

Name _____

Firm _____

Address _____

City _____ Zone _____ State _____

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NEW!

Rapistan® SEALED CASTER

at ⅓ less cost than ordinary non-sealed casters!

5200 Series Rapistan Sealed Caster with 6" Sealed MB Demountable Wheel.

Now, for the first time, this revolutionary Rapistan development gives you a heavy-duty cold-forged *sealed* caster at ⅓ *less cost than ordinary leading non-sealed casters!* Save in longer caster life, improved performance, lower maintenance. Dirt, acids, alkalis, brines, other chemicals are *sealed out* of coin-hardened raceways. Ask your Rapistan distributor to show you the comparative service chart, or write direct.

YOURS FREE! *Write for handbook describing Rapistan casters including new 5200 Series.*

The RAPIDS-STANDARD COMPANY, Inc.
282 Rapistan Building • Grand Rapids 2, Michigan

Rapistan® FASTEST GROWING NAME IN CASTERS

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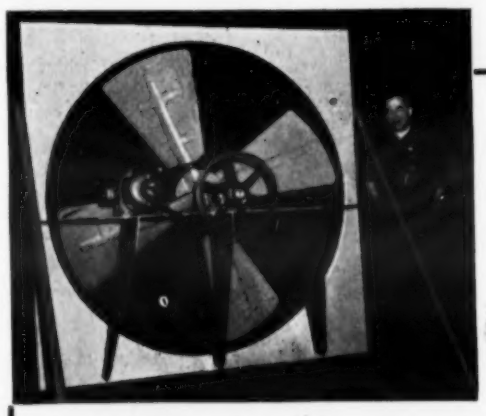

"Buffalo" 72" NV Heavy-Duty Breezo Fan

NOW! Propeller Fan Economy On More Jobs Than Ever!

24" to 84" sizes! 4,000 to 90,000 cfm capacities! Free air delivery or duct-connected for static pressures up to 1"! Models for high and low temperatures, explosive and/or corrosive atmospheres! You'll save money on many an air job formerly requiring a more expensive fan, using these sturdily built square-paneled fans that are so easy to install. Quiet, efficient, practically attention-free. Four blades, die-stamped of heavy-gauge steel. A lifetime unit. WRITE NOW for Bulletins 3865 and F3790!

BUFFALO FORGE COMPANY
215 MORTIMER ST. BUFFALO, NEW YORK
PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

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MORE TON-MILES PER TIRE WITH...

MONARCH

To get more ton-miles per tire ... (1) buy dependable MONARCH industrial solid tires ... (2) follow the MONARCH tire care program. The 28-page illustrated MONARCH catalog presents complete data to aid in selecting the right pressed-on tire for each job and offers suggestions for obtaining maximum service from your tires. Write for your copy today.

THE **MONARCH** RUBBER COMPANY
260 LINCOLN PARK
HARTVILLE, OHIO

7-255 Gen'l Motors Bldg. • Detroit 2, Mich.
SPECIALISTS IN INDUSTRIAL SOLID TIRES

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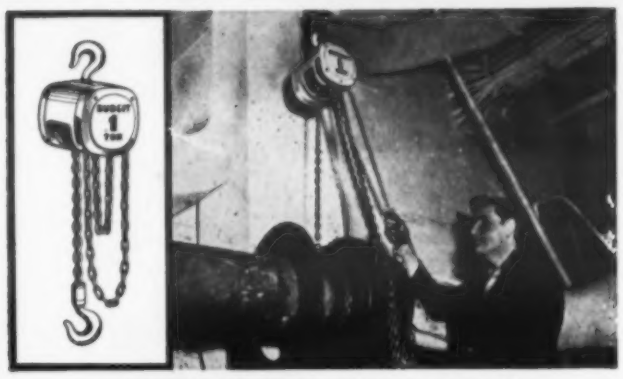

SAVES AS IT LIFTS

It's the 'Budgit' Aluminum Chain Block, the one-man hoist that's light, easy to carry, hang up and use anywhere for spot-lifting. The ¼-ton size weighs only 29 lbs., yet the full load can be lifted smoothly with a hand chain pull of only 25 lbs.

The 'Budgit' Aluminum Chain Block is tough — gives economical, long-life performance in everyday service. Spur-geared efficiency speeds lifting, and the big automatic load brake and over-capacity hooks and heat-treated load chain completely safeguard man, load, and hoist. Capacities: ¼, ½, 1 and 2 tons. Ask your "Shaw-Box" Distributor for detailed information or write for Bulletin 398.

'Budgit'® CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products.

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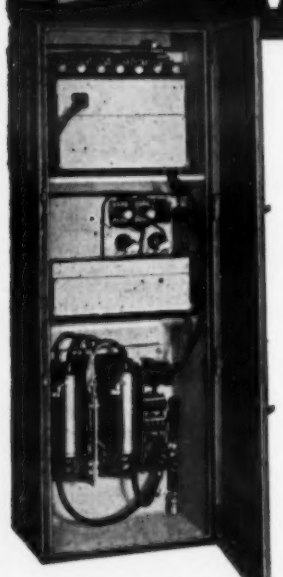
Simplified Precision Welder Control



- Greatly Simplified Circuits
- Timing Accuracy Assured
- Easy Inspection and Maintenance

APPLICATION: for welding stainless steel, nonferrous metals, and other critical spot welding jobs requiring electronic synchronous-precision control. (Available with current wave shape control auxiliaries for aluminum or alloy metals.)

at left • Class 8993 NEMA Type S2H Synchronous-Precision Controller available with 600 or 1200 frame contactor. Can be arranged either for side of machine or wall mounting.

Write for Bulletin 8993

Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

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FREE! yours for the asking

This 20 page authoritative book on self-priming centrifugal pumps is yours for the asking — no strings attached . . . no obligation.

Now, with a trend in industry toward self-priming pumps, this profusely illustrated book, written by A. S. Marlow, Jr., will give you *all* the facts on centrifugal pump theory and self-priming pump operating principles.

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COOLANT SPRAY SYSTEM
makes possible fast cutting speeds

Designed to permit increased cutting speeds and feeds in such operations as turning, milling, grinding, blanking, piercing and drilling, Spray-Lube system applies cutting oils, coolants or drawing compounds in a finely divided intense spray between work and tool. Lubricant can be applied to the work area from any direction and from as many points as necessary for thorough coverage. Fine spray lubricates the tool efficiently, insures that fluid reaches the contact point of work and tool where it is most needed and provides rapid heat transfer. Intensity of spray is regulated by altering pressure adjustments, and individual metering control is provided at each mixing valve. Made by **C. A. Norgren Co.**, 3405 S. Elati St., Englewood, Colo.

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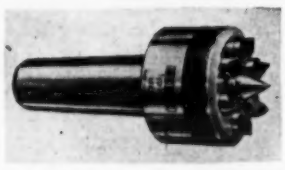
LATHE DRIVING CENTER
with front end driving mechanism



In addition to providing high turning capacity for mass production of massive components, the Kosta K 3 automatic driving center for lathes is practical tool for manufacture of pinion or splined shafts in gear cutting automatics. Longitudinally movable driving bolts counteract any irregularities in uneven end faces of components, avoiding disadvantage of driving plates whose gear surface lies in an immovable plane. Components can be inserted, removed and rechucked with machine running. Face ends of components serving as gripping surface can be either straight, sawed, forged and perpendicular or at an angle with axis of rotation. Standard sizes include 2 to 6 Morse tapers for diameters ranging from ½ to 5 in. Distributed by **Mera Machine & Mfg. Co.**, P. O. Box 471, Elizabeth, N. J.

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Cylindrical Grinding

Landis Tool Co.—Useful information on reducing cylindrical grinding costs, improving quality and training operators is found in 36-page how-to-do-it type handbook. Its 17 chapters contain 36 pictures, 15 sketches and many useful tables and charts. Grinding wheel gradings, balancing the wheel and common troubles and how to correct them are among subjects.

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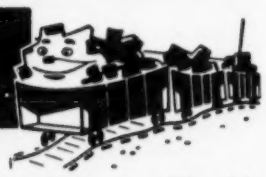
The case of the distressed coal...

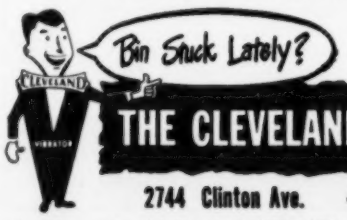


Recently we had a case like this in a Pittsburgh steel mill. Their coal was happy as a clam, just sitting back contentedly in the railroad hopper cars, refusing to budge.

The plant superintendent was hopping mad until we came to the rescue with a CLEVELAND vibrator.

The coal was distressed at being jolted into action. It *had* to move right along with production . . . and now the *superintendent* is happy as a clam.

Tell us your materials handling problem, or ask for our detailed literature.



THE CLEVELAND VIBRATOR CO.

2744 Clinton Ave. • Cleveland 13, Ohio

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This NEW Book . . .

tells you how to . . .
- INCREASE PRODUCTION
- LOWER COST PER PIECE
- WORK TO CLOSER TOLERANCES

60-page GUIDEBOOK tells how to get better surface grinding results . . . how to grind various materials . . . how to select the right abrasive disc for the job . . . how to care properly for abrasive discs—PLUS hundreds of operating hints!

Get the most out of your disc grinders. Send for your FREE copy today.

GARDNER MACHINE COMPANY
460 Gardner Street • Beloit, Wis.

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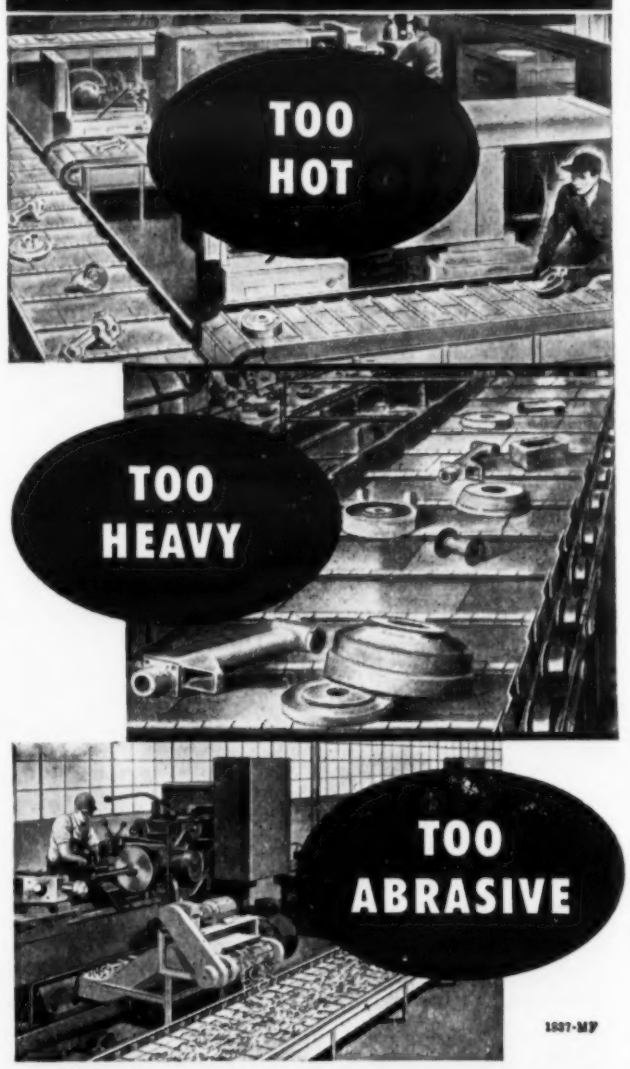
NEVER



for MAY-FRAN hinged-steel belt

Built for the tough jobs . . . MAY-FRAN hinged-steel conveyor belting withstands conditions that quickly destroy ordinary belts. Its special design and sturdy construction make it suitable for conveying hot forgings, heavy castings, abrasive scrap and many other items.

MAY-FRAN hinged-steel belting can be furnished in widths from 6 inches to 6 feet and in any length or carrying capacity. Solid and perforated links are available in 2½ to 12-inch pitch lengths.

For complete information on the unique MAY-FRAN hinged-steel belting, write today for Bulletin MF-530.

MAY-FRAN ENGINEERING, INC.

1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

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HOW does O.B.I. construction affect your profits?

The results you get, the time you save, the profit you make, on an inclinable press run depends to a large extent on how that press is built. Clearing engineers have developed a press with a type of frame, construction materials, ram guiding, controls and other important features, which give you the highest possible productivity in stamping work.

GET THE FACTS!

Clearing's new O.B.I. catalog gives full specifications and dimensions — explains construction of important press features. Write for it today.

CLEARING PRESSES THE WAY TO EFFICIENT MASS PRODUCTION

CLEARING MACHINE CORP. • 6494 West 65th Street, Chicago 38, Ill.

HAMILTON DIVISION, Hamilton, Ohio

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CUSTOM MADE PRECISION STAMPINGS IN SMALL LOTS

Since 1921 we have specialized in the production of accurate die-cut metal stampings in small lots. The tool cost is low . . . actually as low as 15% to 20% of the cost of permanent tools. We guarantee dependable service and delivery on date specified.

• **SEND** us a sample or blueprint. We'll quote you a price. Or write for detailed information.

DAYTON ROGERS *Manufacturing Company*

Minneapolis 7E, Minnesota

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The Only Air Cylinder

WITH ALL CONTROLS BUILT-IN

This air cylinder is a complete, "packaged" power unit. Electrical switching controls (1), four-way directional valve (2), and independent speed control valves (3), are all a built-in part of the unit. Only one air connection required yet unit is full double-acting. So revolutionary in design it is known as the Bellows Air Motor. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝" and 4½". Virtually any stroke length. Optional choice of mechanical built-in valve controls.

Write for this Free Booklet

Bulletin CL-50 describes the complete line of Bellows "Controlled-Air-Power" Devices. 36 pages, three colors. Chock full of helpful information for production men and design engineers. Free on request. Write Dept. NED-454.

The Bellows Co.
AKRON 9, OHIO

In Canada: Bellows Pneumatic Devices of Canada, Ltd., 4972 Dundas St. W., Toronto, Ontario.

909A

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HIGH VACUUM SYSTEM
rapidly evacuates gases given off in soldering, brazing operations

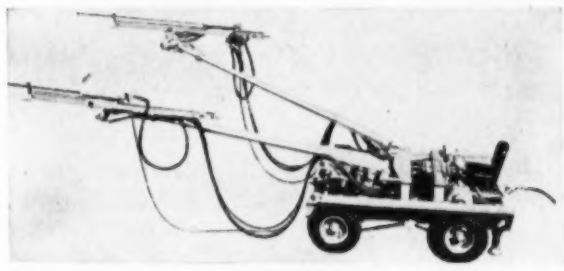
Rapid evacuation of gases driven off during soldering and brazing operations is provided by high vacuum system which will pump down 12-in. bell jar to 0.04 microns in only three minutes. Either induction or resistance heating arrangements can be supplied. This fast pump-down time is made possible by 260 liters-per-second pumping speed of diffusion pump and 5 cu ft per minute of mechanical pump. It produces pressures of 10^{-5} or lower. Unit can be furnished with either induction heating or resistance heating arrangements, and is complete with gages, pumps, by-pass line and power supply.

Double, right-angle baffle is provided to prevent back-streaming oil from reaching bell jar. Unit has two filament posts rated 50 amp at 10 v and plugs into any 110-v 60-cycle outlet. Water connections are for ¼-in. tube with regular flare type fittings. Cabinet measures 38½ x 25 x 23 in. and bell jar is 18 in. high. Made by **High Vacuum Equipment Corp.**, 347 Lincoln St., Hingham, Mass.

▲ For more details circle NED-406 D4 on enclosed inquiry slip ▲

ROCK DRILL
self-propelled, hydraulic controlled

Self-propelled JSP Mobiljumbo rock drilling machine has two independent booms and drills, operation of which is hydraulically governed from a control panel



at the driver's seat mounted on the carriage. Drills can be positioned for vertical or horizontal holes, and are locked in position during the drilling cycle. Jacks used to raise the carriage so that it provides a firm base for drilling operations are also controlled from the panel. Carriage wheels are air motor powered and will steer the machine. Various boom lengths are available for drilling faces up to 14 ft high and 25 ft wide. Air motor driven generator is available for underground lighting. Made by **Gardner-Denver Co.**, 1350 Front St., Quincy, Ill.

▲ For more details circle NED-407 D4 on enclosed inquiry slip ▲

NEW WAY TO LOWER SLING COSTS

Let us send you this new bulletin on ROEBLING ALL-PURPOSE SLINGS with the Tapered Sleeve Splice

YOU SAVE every way with these slings: 1) they cost less, are ready for the job; 2) they're flexible, easy to handle, tough, long lasting, develop the full catalog strength of the rope. And now you can get All-Purpose Slings with a heavy steel galvanized thimble, plus attached weldless hooks, links or shackles, if desired. They're available with loops in standard lengths and sizes; stocked by Roebling distributors and branches...Order All-Purpose Slings with the Tapered Sleeve Splice for lower sling costs; and send for new descriptive bulletin. John A. Roebling's Sons Corporation, Trenton 2, N. J.

Subsidiary of The Colorado Fuel and Iron Corporation CF&I

ROEBLING

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For Fast, Sure, Clean Sealing and Moistening...

Use the PIKE "BETTER MOISTENER"

For sealing envelopes — for sticking stamps and labels — put a PIKE "Better Moistener" on every desk in your mailing department and shipping room! They're self-cleaning—last for years. Broad weighted base prevents tipping. Feet are concealed and rubber-padded — no *scratching!*

Attractively styled, in finishes to match every office decor. Sparkling chrome cover, with bases of black, gray or brown porcelain — or cast iron with black or gray wrinkle finish.

Model 3A — Porcelain base. Black, gray or brown. List price $3.95. Model 3C — Cast iron base. Black, steel gray wrinkle finish. List price $4.50.

Both with 3" adjustable brushes. Extra brushes $1.32.

See your stationery dealer

or mail or phone your order direct to

E. W. PIKE & CO., INC.
494 NORTH AVENUE
ELIZABETH 3, N. J. ELizabeth 2-9630

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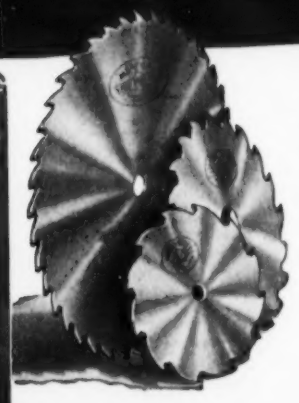
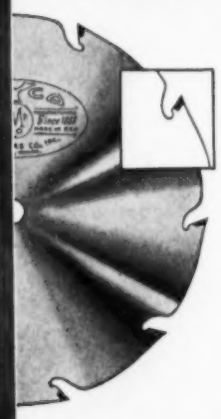
For that *extra* quality without *extra* cost it's

MEYCO carbide tipped Circular Saws

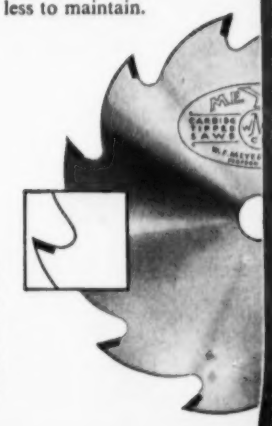


Meyco Carbide Tipped Blades, engineered for tungsten carbide, mean better results for you: A reputation built on finer workmanship and a background of experience.



SAFETY SAW

Meyco Controlled Cut Safety Saws will not grab or kick back —regulates rate of feed—economical, costs less to buy, less to maintain.



In standard sizes with standard arbors —or made to your specifications for individual applications. Write for descriptive catalog No. 19.

W. F. MEYERS CO., INC.
BEDFORD, INDIANA
MANUFACTURERS OF PRECISION TOOLS SINCE 1888

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SAVE UP TO 85% ON GOVERNMENT SURPLUS

MAGNI-FOCUSER

Has fine ground lenses of optical glass. Neutralizes eye strain from close work. Binocular design gives third dimensional vision. Allows freedom of both hands. Wear over glasses. Plastic frame with adjustable headband.

SIZES: 20" focal lgth. 1½ power – 14" focal lgth., 1¾ power, 10" focal lgth., 2¼ power; 8" focal lgth., 2½ power ..... price each ONLY 10.50

HYDRAULIC EQUIPMENT

We stock over 100,000 Hydraulic Cylinders in 106 different types and sizes. These can be adapted wherever tremendous power is needed to push, pull, hoist, mould or drive, etc.

SPECIAL

Gives 20,000 lb. thrust using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used on a low pressure air system. Has 4" bore; 18" stroke; 30½" long. Ideal for shop. Part No. 29 USED 29.95 NEW 43.95

OTC TOOLS

See our complete line. Pullers for Gears, Bearings, Wheels, Pulleys, Bushings, Shafts, etc.

HYDRAULIC HAND PUMP

Operating pressure 1500 PSI. Cap., 1.5 cu. in per complete cycle ... 12.75

NEW 10 TON HYDRAULIC PRESS

SIZE: 60" high 27" wide 29" base

Use this Press in the Shop or take it with you on the job. Frame is 4" welded channel iron. Has 4½" stroke, 2½" diam. ram. Valve operates piston in both directions. Adjustable platform. Positive power Hand Pump with handle. 2000 PSI pressure gauge. 129.00

HYDRAULIC ACCUMULATORS

A-2B FLOATING PISTON TYPE – 4" x 18" Built to stand 2,000 PSI 12.75

A-5 VICKERS – 10" dia. Ball type. Built to stand 2000 P.S.I. 24.50

NOTE: Stocks include bargains in Hydraulic Pumps – Valves – Motors – Boosters – as well as Oil, Water and Fuel Pumps, etc.

WORLD'S MOST AMAZING BARGAIN CATALOG

320 PAGE-1954 EDITION

Packed with SENSATIONAL VALUES in GOV'T SURPLUS – FACTORY CLOSE-OUTS – and GENERAL MERCHANDISE. Fully priced and illustrated. Thousands of Items in Machine and Industrial Tools – Hydraulic Equipment such as Cylinders, Pumps, Valves, Motors, Fittings, etc. Bargains in Electric Motors, Generators, Blowers, Parts, etc. Also Hand and Power tools, Precision Instruments, Bearings, Hose Clamps, Winches, Foam Rubber, Microscopes, etc. ALL AT PALLEY BARGAIN PRICES – PRICED TO SELL!

Palley SUPPLY CO. 2263 E. VERNON AVE., DEPT. NED-4 LOS ANGELES 58, CALIF.

Pay by M.O. or check. P.O.'s accptd. from D&B firms. ½ deposit with C.O.D.'s. Prices FOB Los Angeles.

▲ For more details circle NED-411 D4 on enclosed inquiry slip ▲

HIGH VACUUM PUMP USERS:

END WATER VAPOR TROUBLE

NRC Rotary Gas Ballast Pump— Model NRC 100M — a 2-stage pump unit

- **Maintains fast pump down time**
- **Eliminates oil reclaiming units**
- **Provides greater capacity under 1 mm Hg**
- **Requires up to 80% less oil charge**
- **Capacities from 1¼ cfm to 400 cfm**
- **Pressures down to 10^{-4} mm Hg**

This is important news for every user of rotary vacuum pumps. At last, an "anti-water-vapor" pump that does not blank off at increasing pressures because it is trying to pump condensable vapors.

Water vapor is no problem to the new National Research Rotary Gas Ballast Pump. It operates on a principle that *prevents* the water vapor from condensing and contaminating the pump oil.

The pump is available in capacities from 1¼ cfm to 400 cfm; pressures down to 10^{-4} mm Hg; a full line of vane, piston-type and 2-stage pumps.

Send in the coupon today for your copy of the new bulletin that gives a full explanation of the Gas Ballast principle and complete engineering data on the construction and operation of the NRC Rotary Gas Ballast Pumps.

NRC

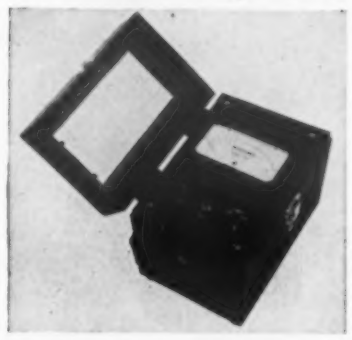
National Research Corporation
EQUIPMENT DIVISION, 160 Charlemont Street, Newton Highlands 61, Mass.

Send me more facts about the NRC Rotary Gas Ballast Pump ☐ Have your Salesman call ☐

Name _____
Title _____
Company _____
Address _____

▲ For more details circle NED-412 D4 on enclosed inquiry slip ▲

INSULATION RESISTANCE TESTER provides constant test voltage



Essentially constant direct current test voltage, independent of ohmic value being measured, is provided by model 266 Vibrotest, a portable, dry-cell-operated resistance measuring instrument. Circuit is designed around synchronous vibrator power supply with maximum output current of 400 microamperes at 500 v dc potential. Megohm ranges are 1 to 100 and 1 to 1000. Instrument is housed in steel case with removable cover and measures 8⅞ x 6 x 8¼ in. It weighs 18 lb. Made by **Associated Research, Inc.,** 3786 W. Belmont Ave., Chicago 18, Ill.

▲ For more details circle NED-413 D4 on enclosed inquiry slip ▲

HYDRAULIC METAL FORMING PRESS features pipeless construction, photo-electric safety device

All high-pressure hydraulic fluid in the Elmes 450-ton single-action metal drawing and forming press is conducted through short, direct passages drilled in the structural parts. This pipeless construction minimizes maintenance and downtime. Unit illustrated employs two reversible pumps, providing operating speeds of 550 ipm advance, 126 ipm press and 550 ipm return. It is pushbutton operated and arranged for semiautomatic, full-automatic and jog operation. Also, manual metering-down valve allows dropping slide slowly and accurately during setups.

Featured safety device consists of photo-electric curtain covering vertical entry plane and interlocked with press "close" electrical circuit. If operator's hands are in entry plane, press will not operate. If press is in act of closing and operator's hands pass through photo-electric curtain, press will automatically reverse and stop at full open position. High-temperature cut-out switch, consisting of preset thermostat with two sets of contacts, prevents oil from being overheated and thus protects pumps. Made by **American Steel Foundries,** Elmes Engineering Div., 1150-S Tennessee Ave., Cincinnati 29, O.

▲ For more details circle NED-414 D4 on enclosed inquiry slip ▲

for Highest Accuracy in

Sound-Level Measurements

PORTABLE ★ SELF-CONTAINED

EASY TO OPERATE ★ VERSATILE

Anyone can make accurate measurements of sound levels with the G-R Type 1551-A Sound-Level Meter. The sum of meter and attenuator switch readings gives the answer.

This instrument measures any sound level from 24 to 140 db . . . has non-directional microphone . . . highly stabilized amplifier . . . operates from self-contained, readily available flashlight and radio "B" batteries.

The standardization of this instrument agrees with specifications of the Acoustical Society of America, American Standards Association and the American Institute of Electrical Engineers.

Where highest accuracy is a 'must' the Type 1551-A Sound-Level Meter is the answer. Price: $360.

Write for the Sound Measurements Bulletin for complete data.

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

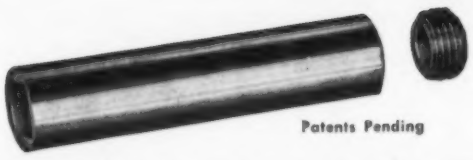
▲ For more details circle NED-415 D4 on enclosed inquiry slip ▲

NEW ADJUSTABLE DRILL JIG eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works,** 22 Hancock St., Quincy, Mass. *Adv.*

▲ For more details circle NED-416 D4 on enclosed inquiry slip ▲

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE
23514 TELEGRAPH RD., DETROIT 19, MICH.

▲ For more details circle NED-417 D4 on enclosed inquiry slip ▲

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

LITEWATE Roller Conveyor

Ideal for loading and unloading. Handles commodities up to 60 lbs. — moves bags, cases, hollow bottom, narrow, cleated and irregular packages. Available in 10 ft. and 5 ft. straight sections and 90° and 45° curves. Keep LITEWATE conveyors handy in your storage and shipping rooms — carry them in your trucks. Write for LITEWATE Conveyor Bulletin — address Dept. NED-44.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

▲ For more details circle NED-418 D4 on enclosed inquiry slip ▲

You get a

Complete Package

with a

RIVETT Power Unit!

Rivett offers the Series 9100 Power Unit as the ideal source of power for your hydraulic circuit. The unit is equipped with pump, relief valve, oil filter, pressure gauge, and all equipment necessary to furnish a steady flow of oil at continuous working pressures up to 1000 P.S.I. Reservoir is available in 5 tank sizes, with pump capacities from .4 G.P.M. to 40 G.P.M. Motor mounting may be arranged for any standard frame. Series 9200 with double pumps are supplied for two separate circuits of different pressures.

Write for Catalog showing specifications and description of Rivett Hydraulic Power Units.

RIVETT LATHE & GRINDER INC.

Brighton 35, Boston, Mass., Department NED-4.

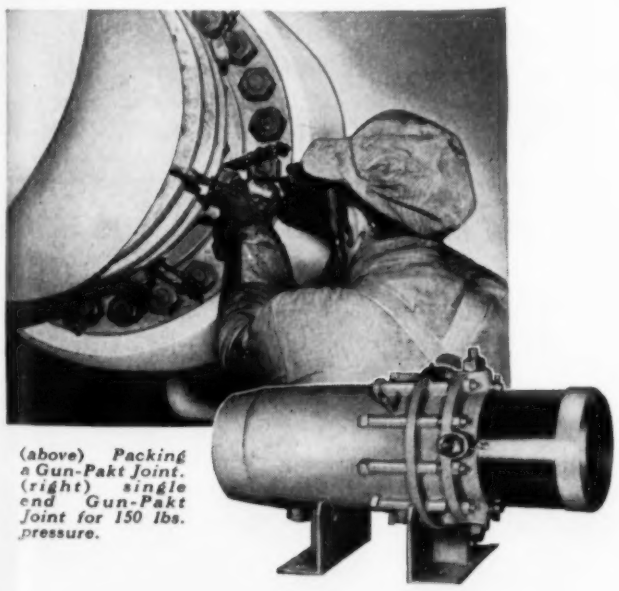
For more details circle **NED-419 D4** on enclosed inquiry slip

AVOID SHUTDOWNS! USE EXPANSION JOINTS PACKED UNDER FULL STEAM PRESSURE

Production schedules can be ruined by repair and service shutdowns on steam distribution lines. Avoid shutdowns by using the slip-type expansion joints that can be packed under full steam pressure—Yarway Gun-Pakt Expansion Joints.

You simply insert a piece of Yarway plastic packing, twist a wrench, and the joint is tight...the job done.

Other Yarway Gun-Pakt advantages—(1) strong, rugged construction with less chance of major shutdowns, (2) fewer joints needed per length of pipeline because of longer sleeve traverses, (3) lower year-in-year-out maintenance costs.



(above) Packing a Gun-Pakt Joint. (right) single end Gun-Pakt Joint for 150 lbs. pressure.

Public utilities, industrial plants and institutions find Gun-Pakt one of the greatest expansion joint advancements in recent years. See how Gun-Pakt joints will fit into your steam lines. Write for Yarway Expansion Joint Bulletin EJ-1912.

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.

YARWAY *gun-pakt expansion joints*

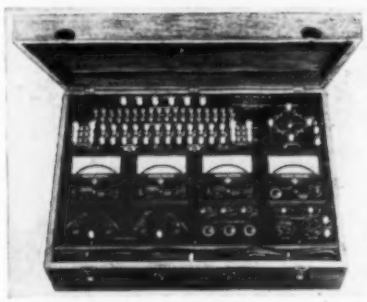
For more details circle **NED-420 D4** on enclosed inquiry slip

PLATING RECTIFIERS with 5 to 50,000-amp capacities

Source of continuously smooth direct current at ratings between 5 and 50,000 amp can be provided by five models in line of electroplating rectifiers. They are conservatively rated, three-phase circuit, selenium type rectifier stacks connected for 5 per cent ripple. Light-weight construction makes extra structural supports or foundations unnecessary. They can be connected in series, parallel, or series-parallel. Large package unit is rated at 2000-50,000 amp, water cooled unit at 1500-50,000 amp, while small package unit is rated at 250-2000 amp, cubicle model to 2000 amp and bench type from 5 to 200 amp. Associated regulators and controls of various types are also available in standard or special designs. Made by **Wagner Brothers, Inc.**, 426 Midland Ave., Detroit 3, Mich.

For more details circle **NED-421 D4** on enclosed inquiry slip

MEASURING TEST SET for direct currents, provides over 200 separate instrument ranges

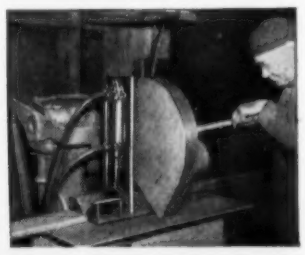


Over 200 separate instrument ranges are now available in model UTS universal measuring test set for direct current. It will measure directly from 1 microampere to 60 amp and from 1 mv to over 750 v. In few moments instrument can be connected for use as wheatstone bridge, potentiometer millivoltmeter and voltmeter, zero resistance microammeter or milliameter high resistance voltmeter, radio frequency voltmeter, radio frequency millammeter or ammeter, or used for direct current measurements, as bridge type alternating current rectifier, circuit tester, etc.

Model consists of three basic instruments with full scale sensitivities of 5 ma, 20 ohms and 100 mv; one multirange galvanometer (5 ranges); and one 4-dial decade resistance, along with necessary contact keys, potentiometers, binding posts, leads and instructions. It is supplied in oak case with removable cover and compartments for leads. Made by **Sensitive Research Instrument Corp.**, Dept. 10A, 9 Elm Ave., Mt. Vernon, N. Y.

For more details circle **NED-422 D4** on enclosed inquiry slip

Clamping Device on Abrasive Cut-off Saw

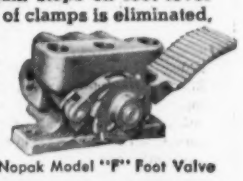


Operated by **NOPAK** MODEL E CYLINDER

This efficient clamping device was developed by a distributor of industrial supplies, to speed up the cross-cutting of pipe, rod stock, angle iron and other shapes. A NOPAK 2" x 6" Model "E" Cylinder, suspended from the top of an "A" frame, supplies the power which holds the stock firmly in place while the abrasive saw does the cutting quickly, squarely and accurately.

Cylinder is actuated by a NOPAK Model "F" Foot Operated Valve which leaves operator's hands free . . . enables him to move about between cuts until he again steps on foot lever to release clamp. Manual manipulation of clamps is eliminated, valuable time and effort saved.

NOPAK Cylinders and Valves are used in thousands of similar applications, to accelerate production, reduce costs, minimize fatigue. Ask your NOPAK representative to show you the NOPAK Application Manual.



Nopak Model "F" Foot Valve

GALLAND-HENNING NOPAK DIVISION
2755 SOUTH 31st STREET • MILWAUKEE 46, WISCONSIN

Refer to Sweet's File for Product Designers or write for Bulletin SW-2. Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS DESIGNED for AIR and HYDRAULIC SERVICE

A 7678-1/9-AA

For more details circle **NED-423 D4** on enclosed inquiry slip

Hammond of KALAMAZOO FOR DEBURRING

Model 50-DD

It is amazing how soon these Abrasive Belt Machines pay for themselves.

11 combinations available with or without Duskolector.

"Clip" this ad to your letterhead. 20 page catalog will be sent at once.

Hammond Machinery Builders INC.
1623 DOUGLAS AVENUE KALAMAZOO, MICHIGAN

For more details circle **NED-424 D4** on enclosed inquiry slip

TIPS ON SELECTING SEAMLESS MECHANICAL TUBING

Hot-Finished

Cold-Drawn

Roto-Rocked

Factual bulletin helps you choose the correct tubing for your particular application. Write today for Bulletin TB-340.

TA-4029(LM)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

For more details circle **NED-425 D4** on enclosed inquiry slip

QUICK, EASY WAY TO STOP LEAKS

Dry Up DAMP, CLAMMY BASEMENTS!

Leaks in concrete walls, masonry, cinder block, etc., can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a trowel coat for sealing off water and dampness. Transforms leaky basement walls into dry surfaces. Used in elevator pits, tunnels, dams, tanks, retaining walls, etc. (Minimum quan. 6 gal.)

MAIL COUPON for TRIAL OFFER

FLEXTITE

FLEXROCK COMPANY • *Offices in Principal Cities*
3603-F Filbert St., Philadelphia 1, Pa.

Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN—no obligation.

Name ..... Title .....
Company .....
Address .....

For more details circle **NED-426 D4** on enclosed inquiry slip

TRI-LOK

Each Tri-Lok step consists of a panel of Rectangular, Diagonal, or U-type Tri-Lok flooring in any desired width, length, depth, and bar spacing.

SAFE—checker plate nosing bars make each step stand out clearly. Abrasive edging also available.

CLEAN—clogless, rivetless Tri-Lok joint prevents accumulation of dirt, moisture, rust.

STRONG—added strength provided at maximum load contact by shape and rigidity of nosing bar.

Write today for bulletin PL-1103

DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

DRAVO

▲ For more details circle **NED-427 D4** on enclosed inquiry slip ▲

New HYDRAULIC RAMP makes big savings at your loading docks

Moving Up or Down, the Leva-Dock Ramp keeps on the level with the truck or trailer bed. It compensates 4 ways for varying truck bed heights, out-of-level trucks, spring deflection.

Faster Handling • Less Breakage • Greater Safety
Power trucks move in and out of trucks and trailers faster, in safety, on the LEVA-DOCK RAMP. This hinged, self-leveling ramp positioned by an hydraulic jack fits into your loading dock and becomes part of the dock floor when not in use.

The LEVA-DOCK RAMP eliminates use of steel plates, bridge ramps or slow and expensive methods. Supports 20,000 lb. load in operating position. New automatic safety device prevents accidents and delays.

6 New Models—Lower Prices—Economical operation is by *self-contained electric power unit or compressed air.* Simple to install. Hundreds of dependable Rotary LEVA-DOCK RAMPS now in use are effecting substantial savings in loading costs.

Rotary®
LEVA-DOCK RAMP®

Mail coupon for complete data and prices
Rotary Lift Co.,
1158 Kentucky,
Memphis 2, Tenn.
Send information on new LEVA-DOCK RAMPS to:
Name.....
Address.....
.....

▲ For more details circle **NED-428 D4** on enclosed inquiry slip ▲

INTERCOMMUNICATION SYSTEM features dial and "memory" circuit and telephone conference use

"Memory" circuit incorporated in the Dial-X intercommunicating telephone system makes it unnecessary for any user of the system to repeat the dialing of a line that is busy. System remembers the call and completes it as soon as the busy line becomes available. It also has a device that allows key executives to "cut in" a busy line with urgent messages.

Private system also provides direct connection with a paging or sound system, easy calling of telephone conferences and unlimited simultaneous service of the entire system, which has no shared circuits. Systems are available in 20 and 40-line capacities, but initial installations can have any fraction of those sizes. Each line can have up to six extensions. Power is derived from any 110-v, 60-cycle line. Systems can be leased or purchased from **Stromberg-Carlson Co.,** Sound Equipment Div., 1204 Clifford Ave., Rochester 21, N. Y.

▲ For more details circle **NED-429 D4** on enclosed inquiry slip ▲

INDUSTRIAL THERMOMETERS designed with separable sockets

Developed for restricted space applications, line of 5-in. scale mercury-in-glass industrial thermometers has separable sockets. Straight, 90-degree rear, right or left side angle and 135-degree oblique angle cases are offered. Scales with ranges of −40 to 110° F, 30 to 180° F, 30 to 240° F, 30 to 350° F and 200 to 500° F are offered. Separable socket or well permits the thermometer proper to be removed without leaving an opening in the line or apparatus. Sockets are threaded for both ½ and ¾-in. NPT and are made of brass, steel or stainless steel. Two stem lengths give an immersion length of 3 15/16 and 1 15/16 in. using the ¾-in. threads and ⅝-in. less with the ½-in. thread. Made by **Precision Thermometer & Instrument Co.,** Dept. E-2, 1434 Brandywine St., Philadelphia 30, Pa.

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NOW
truck-man

WITH POWER LIFT FOR GREATER SAVINGS

Successfully tested in the heaviest industries, two Truck-Man models are now ready to cut your costs still more with power lift. Hundreds of Truck-Man trucks with much smaller load capacities and only hand pumps are more than earning their way throughout the nation. Now Power Lift increases this efficiency while retaining the advantages of the agile standard models. A flick of the wrist and the new power lift raises or lowers the load instantly. Once load is raised from the floor, truck can start as balance of lift can be made in transit. 15-40 seconds are saved each trip—more trips per day—more work with less effort.

SIX VERSATILE MODELS

NEW MODEL DHP—Heavy Duty Skid Lift with power pump, 4500 lb. capacity—scoots through narrow aisles, up inclines and around sharp corners with a full load, three shifts a day with ease.

NEW MODEL DFP—3000 lb. capacity, power lift Pallet Toter—hustles those heavy palletized loads around the plant in jig time. Easily does the work of units costing 3 to 5 times as much.

MODEL DH—4500 lb. Skid Lift with Hand Pump.

MODEL DF—3000 lb. Pallet Toter with Hand Pump.

MODEL DT—2000 lb. Platform Utility for intra-plant messenger service, parcel delivery or other manually handled loads.

MODEL DR—Truc-Tor for towing those heavy cargo trains—up to 6500 lbs. on dry level concrete.

truck-man **DIV. OF THE KNICKERBOCKER CO.**
627 LIBERTY STREET • JACKSON, MICHIGAN

▲ For more details circle **NED-431 D4** on enclosed inquiry slip ▲

Two sets of double-break contacts—*isolated from each other*—no carry-over from one to the other by an arc.

Coin-silver contacts are used on these new electrical interlocks. With two movable contact bridges (instead of one previously used) and *each isolated from the other,* normally closed circuits *cannot* be *carried over* by an arc to *normally-open* circuits or vice versa. *Safer electrical interlocks*—a good reason for specifying EC&M Magnetic Control.

WRITE FOR BULLETIN 1145

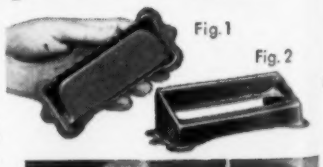
THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79TH STREET • CLEVELAND 4, OHIO

▲ For more details circle **NED-432 D4** on enclosed inquiry slip ▲

▲ For more details circle **NED-433 D4** on enclosed inquiry slip ▲

MULTIPRESS® "Paid For Itself on only 50,000 Parts"

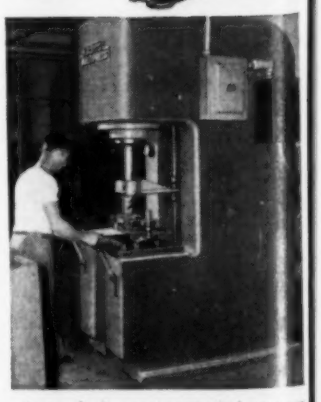
says A. J. Houseman, vice president of Automatic Radio of Boston.



For this well-known maker of auto radios, a 50-ton Multipress cut costs so much it paid for itself on a single run of 50,000 parts. The job is drawing pre-developed blanks of .032 cold rolled steel to form intricate escutcheon plates (Fig. 1), then blanking and piercing them in a second Multipress operation as shown in Fig. 2. Formerly, the drawing alone required three operations.

Stepless adjustment of Multipress ram effort permits pressures to be set just above the point at which dies break through the metal. This, plus smooth, controlled hydraulic action, cuts "die punishment" to the bone. Minimum grind-off is required when dies get dull. Result: *four to five times longer die life than before.*

Drawing speeds are 1500 per hour. The blanking-piercing job is done at 400 units per hour. Scrap loss is far lower.



Fast, safe, low-cost controlled pressure makes Multipress Industry's most versatile production tool. One-ton to 75-ton capacities, bench and floor types. Manual or automatic controls. Standard Multipress feeds and accessories offer extra speed on many operations. Write for details.

DENISON HydrOILics
PUMPS | MOTORS | CONTROLS | PRESSES

THE DENISON ENGINEERING COMPANY
1151 Dublin Road, Columbus 16, Ohio

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CRANE *Quality* brass steam cocks

125 and 250-POUND WORKING PRESSURES

Get your brass steam cocks from Crane and be sure of smooth operation with positive closure.

Big selection in the 125-Pound Class—two, three and four-way; square, flat and tee head; with and without check. Sizes up to 2-inch.

Extra strong 250-Pound steam cock of Crane Special Brass available only in two-way pattern with square head. Sizes up to 2-inch.

For full details on Crane Brass Steam Cocks ask your Crane Representative—or see your Crane Catalog.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

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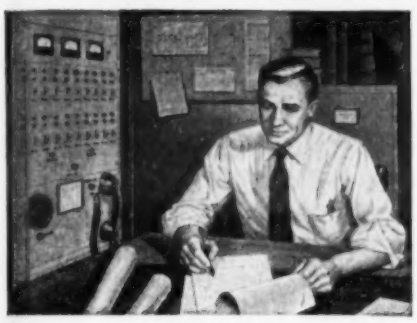
Femco CONTROLS



SUPERVISORY CONTROL
Signals by carrier frequencies over your existing power lines!

TELEMETERING
Measures, transmits and records operating data.

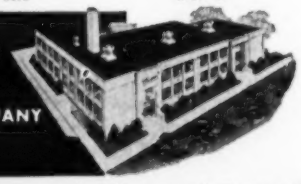
PUMP INDICATION
Watches remote pumps, valves, water or liquid levels and alarms.

INDUSTRIAL CONTROL SYSTEMS

Designed to relay information between remote stations and central control panels. Femco equipment guards vital points in your process, eliminating constant attendance.

Ask for YOUR Femco Data Kit

FARMERS ENGINEERING
& MANUFACTURING COMPANY
IRWIN, PENNSYLVANIA



Specialists in Electronic Communication and Control

▲ For more details circle **NED-436 D4** on enclosed inquiry slip ▲

it's a snap with a *Strand* FLEXIBLE SHAFT MACHINE

No heavy, bulky motor to handle! Just the lightweight handpiece. Positive control. Less operator fatigue, higher production, fewer rejects.

Wide range of uses! Grind, rotary file, brush or drill merely by changing the tool. And new Strand Quick Change Attachment lets you change tools in seconds with simple press-type locking button. No wrenches needed!

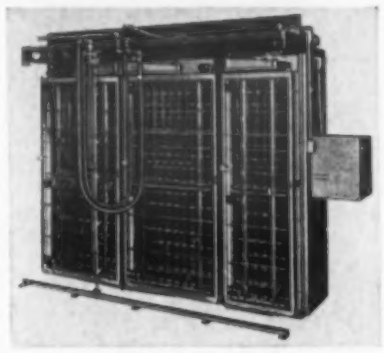
Wide range of speeds! Two 4-speed ranges or two 5-speed ranges! Patented Gear Drive Unit eliminates pulleys and drive belts. Speeds up to 12,000 RPM, or as high as 27,000 RPM when fitted with Strand High Speed Attachment.

GET THE FULL STORY FREE! Strand line includes direct drive and countershaft machines with up to 3 HP, as well as Strandflex units up to 1 HP. See your Distributor or write direct for Catalog 531A.

FRANKLIN BALMAR CORPORATION
N. A. STRAND DIVISION
Woodberry, Baltimore 11, Maryland
5001 N. Wolcott Ave., Chicago 40, Ill.

▲ For more details circle **NED-437 D4** on enclosed inquiry slip ▲

ELECTRONIC DUST PRECIPITATOR plates are cleaned semiautomatically



Redesigned to provide semiautomatic reconditioning of its collector plates, Electro-Cell electronic dust precipitator can now be fitted with a type H washer that cleans the plates with a water spray and recoats them with a dust holding adhesive. The entire washing operation is automatic after a starting button is pushed. This arrangement is optionally available on all precipitator equipment larger than 6 ft high and 6 ft wide. Made by **American Air Filter Co.,** 391 Central Ave., Louisville 8, Ky.

▲ For more details circle **NED-438 D4** on enclosed inquiry slip ▲

INSTRUMENT SHUNT converts direct current voltmeter for measuring minute currents

Currents as low as 5 x 10^{-14} amp can be measured by the model 2008 decade shunt which plugs into a Keithley Electrometer to convert it to a direct-reading micromicroammeter. Shunt carries ten current ranges in decade values, permitting full scale current measurements of 10^{-3} down to 2 x 10^{-12} amp. Extreme resolution is assured by using both the 2 and 8-v ranges of a model 200A Electrometer, resulting in 20 overlapping current ranges.

Absolute accuracy is within 6 per cent of all lower scale readings and with 3 per cent of full scale readings. Time constant is within 2 seconds on all ranges except the 10^{-12} ranges where it is about 10 seconds. Measurements which can be made with the Electrometer and shunt include photocell currents, capacitance, insulation leakage and resistance. Shunt can be used separately as a high resistance standard in a Wheatstone bridge. Made by **Keithley Instruments,** 3870 Carnegie Ave., Cleveland 15, O.

▲ For more details circle **NED-439 D4** on enclosed inquiry slip ▲

DO YOU KNOW? "The Turning Point" is a 33-minute 16-mm sound-color motion picture film that deals with the "why" and "how" behind modern lathe production from the development of a new design, through all production stages. Prints are available on a free loan basis for showing to business and industrial groups. Write to Monarch Machine Tool Co., Oak St., Sidney, O.

▲ For more details circle **NED-440 D4** on enclosed inquiry slip ▲

RIGHT AT THE SOURCE OF WASTE

For this 15 hp motor, power losses are corrected where it does the most good—*at the source.* A 4 kvar Sprague Power Factor Correction Capacitor across the terminals reduced reactive circuit current flow through transformers and wiring to a bare minimum . . . slashed power bills noticeably.

Sprague Unit-Cell Capacitors make it unnecessary to buy even one kvar more than you need. Write for the Sprague free guide of cost-saving suggestions, No. 50B.

SPRAGUE PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT
SPRAGUE ELECTRIC COMPANY
183 Marshall St., North Adams, Mass.

▲ For more details circle **NED-441 D4** on enclosed inquiry slip ▲

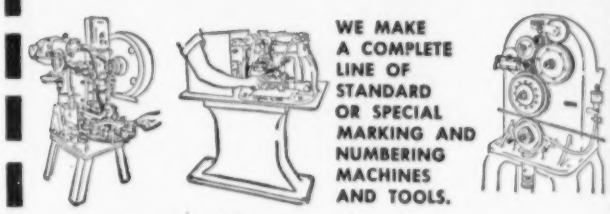
JOB MARKING

OF YOUR { PRECISION AND NON-PRECISION PARTS

OF { IRON, STEEL, BRASS, ZINC, COPPER, ALUMINUM, FIBRE, WOOD or PLASTIC

THEY MAY BE { Cast, Die-Cast, Machined, Tooled, Polished, Enameled, Stamped, Formed or Molded

IT'S LOGICAL THAT THE MAKERS OF MARKING AND NUMBERING MACHINES SHOULD DO YOUR MARKING



WE MAKE A COMPLETE LINE OF STANDARD OR SPECIAL MARKING AND NUMBERING MACHINES AND TOOLS.

LET US BID ON YOUR ENGRAVING AND MARKING

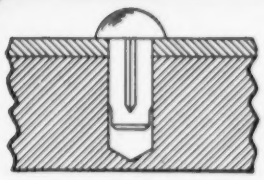
The **ACROMARK** *Company*
7-11 MORRELL ST., ELIZABETH 4, N. J.

▲ For more details circle **NED-442 D4** on enclosed inquiry slip ▲

DRIV-LOK STUDS

Save 60% Fastening Time!

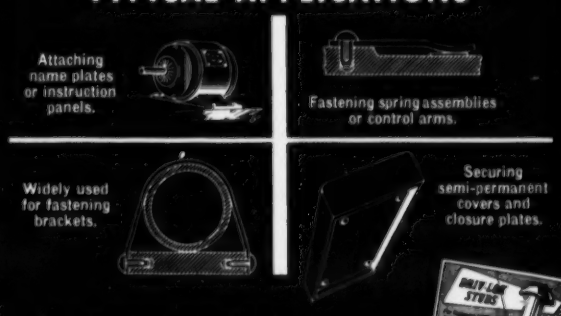
Hold Permanently . . . Disassembled Easily without Damage to Components



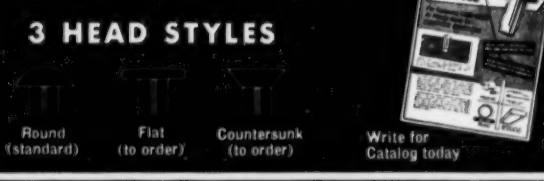
Quick, simple insertion . . . Drill Hole and Drive Stud with a single blow

Driv-Lok Studs save time and reduce costs in fastening name plates, covers, brackets, panels, etc. to heavier sections and for countless other applications involving light-to-heavy member fastening. Once installed, Driv-Lok Studs will not vibrate loose or fall out—yet they can be easily removed without damage to components. Made in 3 head styles. Write for illustrated catalog sheet, prices and samples.

TYPICAL APPLICATIONS



3 HEAD STYLES



DRIV-LOK PIN COMPANY
717 Chauncey St. • Sycamore, Ill.

▲ For more details circle **NED-443 D4** on enclosed inquiry slip ▲

BARBER COLMAN

Barcol.

OVERdoor

standard sizes up to 28′ 2″ wide; 21′ 6″ high

High, wide, and handsome . . . big Barcol OVERdoors operate smoothly and easily. Twin torsion coil springs balance the exact weight of each door down to the last ounce of hardware, glass and paint! Patented cam closing makes door weather-tight yet easy working. Manual or electric operation with radio control if desired. Only Barber-Colman manufactures doors, operators and radio controls. Look for your distributor under "Doors" in phone book.

BARBER-COLMAN COMPANY, DEPT. S44, ROCKFORD, ILLINOIS

▲ For more details circle **NED-445 D4** on enclosed inquiry slip ▲

Case No. 207: Handling sharp edged metal products in hot acid solutions. Correctly job-fitted gloves reduced hand injuries 78% and saved 6c per man-hour on glove replacement cost.

We fit the glove to the job . . .

Savings of 40% to 70% of glove costs to employees or management, and comparable reductions in hand injuries, are being effected by replacing old-type work gloves with Edmont coated gloves designed for the job condition. With the cooperation of America's largest industries we have developed and test-rated gloves for any combination of service requirements listed below. Tell us your operation. Without cost we will send test samples of the correct glove, and name of distributor who can supply you.

Edmont Case No. 208: Handling explosives in fibre cases. *Job-fitted* gloves, palm-coated with rough textured natural rubber, outwore leather palm gloves 3 to 1 and gave positive non-slip grip at all times.

Edmont Case No. 419: Chemical company working in acids and strong solvents. *Job-fitted* gloves coated with NEOX (specially reinforced neoprene) outwore rubber coated gloves more than 4 to 1.

Edmont Case No. 272: Handling thin strips of stainless steel. *Job-fitted* gloves, palm-coated with cut-resisting reinforced neoprene, wore 8 times longer than canvas gloves (224 hours vs. 28 hours) with comparably greater protection.

NEOX (Reinforced Neoprene) Coated

DUROX (Reinforced Plastic) Coated

Rough-Finish Natural Rubber Coated

Abrasion Resistance
Cutting Resistance
Snagging Resistance
Flexibility
Wet Grip
Dry Grip

Acids:
Sulphuric—98%
Sulphuric—10%
Nitric—70%
Nitric—10%
Hydrochloric—38%
Hydrochloric—10%
Chromic

Solvents:
Turpentine
Stoddard Solvent
White Gasoline
Benzol
Cutting Oil
Acetone
Methyl Ethyl Ketone
Kerosene
Lacquer Thinner

Caustics:
Potassium Hydroxide—50%
Sodium Hydroxide—50%
Lye
Trisodium Phosphate

Degreasants:
Trichlor-ethylene
Carbon-tetrachloride

We make 34 types of coated industrial gloves. Complete catalog on request. Address Edmont Manufacturing Co., 1240 Walnut Street, Coshocton, Ohio.

Edmont

Edmont job-fitted gloves

Largest selling line. Supplied by leading industrial distributors

▲ For more details circle **NED-446 D4** on enclosed inquiry slip ▲

QUALITY CONTROL GUIDE

counts accepted and rejected items in total and most recent production

Glance at the Quali-Count, a production counter for use in quality control, tells whether any process is "in control" or "out of control." Inspector pushes either the "accept" or the "reject" button at the base of the instrument as he checks each characteristic. Accepted and rejected production are shown on two counters. Upper two are set at the start of a production period and lower counters are reset at the beginning or shorter periods for spot checking.

Center panel holds series of charts for different overall average defective rates. Each lists the maximum numbers of rejects which may occur in the course of different quantities of accepted production. Inspection of counters and chart reveals whether production is statistically in or out of control, both on basis of total production and most recent production. Device operates on 115-v single phase current and can also be used as a counter at speeds up to several counts per second. Made by **American Hydromath Corp.**, Dept. CAL, 25-20 43rd Ave., Long Island City 1, N. Y.

▲ For more details circle **NED-447 D4** on enclosed inquiry slip ▲

MINIATURE RELAYS

withstand high shock and vibration

Line of hermetically sealed CVE miniature relays for high shock and vibration applications feature rotary armature with dynamically and statically balanced structure. Units are offered in two and four-pole double throw models with 1⅝-in. or 1 15/16-in. height and 1⅛-in. diameter. Temperature ranges are available from −65 to 200° C. Coil resistances range from 7 to 30,000 ohms and voltages, from 0 to 400. Contact ratings range up to 5 amp at 28 v dc or 115 v 400-cycle ac. Units withstand vibration up to 2000 cycles at 20 G, electrical shock up to 125 G and mechanical shock up to 250 G. Various mounting brackets and choice of terminals are available. Made by **S. H. Couch Co.**, c/o Connecticut Valley Enterprises, 110 High St., Deep River, Conn.

▲ For more details circle **NED-448 D4** on enclosed inquiry slip ▲

ALGRIP SAFETY FLOORING PAYS FOR ITSELF IN LOWER INSURANCE COSTS

Crippling accidents that cut production, hurt morale and push insurance premiums too high, can be stopped quickly, simply, permanently in any plant with ALGRIP. For ALGRIP Abrasive Rolled Steel Floor Plate installed in danger areas ends accidents at once and brings insurance costs down fast.

Hundreds of tiny abrasive particles are impregnated *to a controlled depth of penetration* into each square foot of ALGRIP's tough steel plate giving it a "grinding-wheel" grain surface that stays non-slip even when wet or splashed with oil—even on steep inclines! And ALGRIP's surface never becomes smooth because wear only exposes new gripping particles . . . an exclusive ALGRIP safety feature.

Investigate ALGRIP now. You'll find it pays for itself in insurance savings.

Send today for full details on how ALGRIP *can save money for you. There's no* obligation.

A.W. ALGRIP *Abrasive Rolled Steel Floor Plate*

ALAN WOOD STEEL CO. A.W. CONSHOHOCKEN, PA. 1826

UL

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send free booklet AL-4 on savings from safety with ALGRIP.

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle **NED-449 D4** on enclosed inquiry slip ▲

The Answer

To your metal turning cost problem may well be this 11″ Logan Lathe

No. 1955—Quick Change Gear Lathe, **$815.00** F.O.B. Chicago

Brief Facts
Collet Capacity, 1″
Spindle Hole, 1⅜″
Swing over bed, 11½
Center Distance, 24
Bed Width, 6 15/16
Ball Bearing Spindle
16 Spindle Speeds 45 to 1500 rpm
Double V-belt Drive
Threads—48 selections, RH or LH—4 to 224 per inch

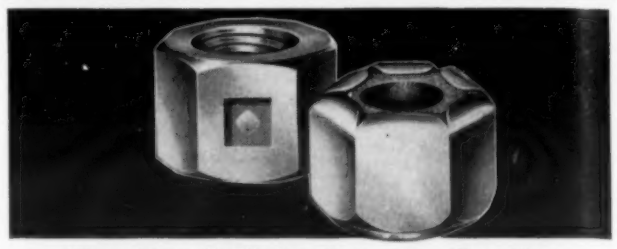
Sustained accuracy and low cost performance are built into the Logan No. 1955. With 1″ collet capacity, 1⅜″ bore, and 24″ centers it takes pressure off costly-to-run, big lathes . . . with no difference in precision results. The ball bearing spindle needs no adjustment for any speed from 45 to 1500 rpm. The rugged, balanced special alloy bed has two V-ways and two flat ways precision ground. The automatic apron, double-walled and friction-free, with spline-driven power cross feed, has a convenient, lever-operated, disc type clutch. V-belt drive transmits maximum power to the headstock. You will find the 1955 equally effective in production, shop and toolroom.

Write for the Logan Lathe Catalog—9″, 10″, 11″ and 12″ Lathes and 8″ Shapers.

Logan ENGINEERING CO.
Lawrence and Lamon Ave., Chicago 30, Ill.

LOOK TO FOR BETTER LATHES AND SHAPERS

▲ For more details circle **NED-450 D4** on enclosed inquiry slip ▲



You Get A Tight Grip On Quality And Costs With Townsend Locknuts

Quality and costs are controlled firmly when you use Townsend locknuts in product assembly.

The Townsend Nylok Nut* on the left is cold forged to provide added strength in the body and threads. The locking element in the nut is a tough nylon plug insert in one hex face which projects beyond the crest of the thread. When the nut is run down on a bolt, the highly resilient nylon is compressed but not cut by the bolt threads. Its spring-like action sets up a counter-thrust, creating strong metal-to-metal wedging of bolt and nut threads. Nut locks in any position on the bolt—seating is unnecessary.

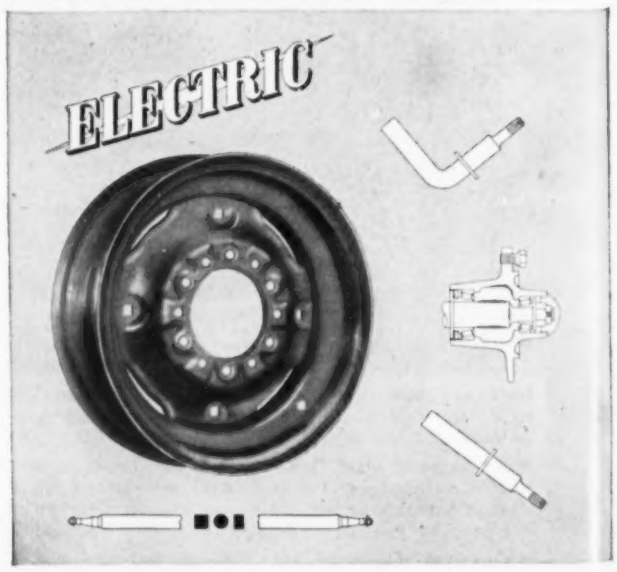
The Tufflok Nut* on the right has an exclusive petal design to assure staking of the hexagonal fibre insert. This provides a positive grip on the bolt at all times, since it cannot loosen or turn in its seat. Tufflok Nut* is an approved AN 365 part for use in aircraft. Both inserts resist moisture, dryness, gasoline and lubricants.

Townsend locknuts are available in sizes #4 through ⅜ inch. For information write today.

*Licensed under the Nylok Corporation patents.
Tufflok is a registered trademark of Townsend Company.

Townsend Company
NEW BRIGHTON, PENNSYLVANIA

▲ For more details circle **NED-451 D4** on enclosed inquiry slip ▲



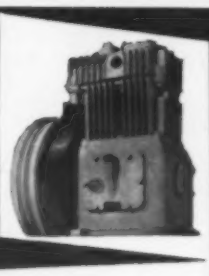
A Wheel for Every Job!

Our engineers will recommend the most efficient and economical wheel and axle assembly for your unit. We invite your inquiries.

WRITE US FOR CATALOG
ELECTRIC WHEEL CO.
2802 SPRUCE, QUINCY, ILLINOIS

▲ For more details circle **NED-452 D4** on enclosed inquiry slip ▲

NEW QUINCY COMPRESSORS WITH safe-Q-lube



For Greater Dependability . . . Lower Maintenance, Quincy Compressors are now equipped with *New* safe-Q-lube to automatically open the intake valve — unload the compressor — whenever the lubricating oil is low. When the compressor is unloaded, lack of air signals operator.

Safe-Q-lube also operates Quincy's Loadless Starting which protects motor and drive from starting overloads. And safe-Q-lube does it with 62% fewer parts for lower maintenance and replacement.

There's a Quincy Compressor for your job. Two new models — Model 255 air-cooled single-stage duplex cylinder 55 CFM piston displacement and Model 350 air-cooled two-stage 50 CFM piston displacement. Quincy has an even more complete line of 21 models in sizes from 1 to 90 CFM.

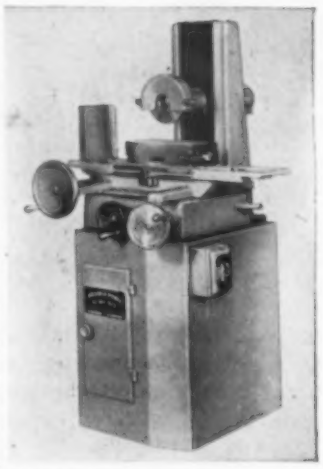
Write for new Quincy slide card illustrating safe-Q-lube. Write Quincy Compressor Co., Dept. NE-35, Quincy, Illinois.

Quincy COMPRESSOR
Makers of the World's Finest Air Compressors

QUINCY COMPRESSOR CO. QUINCY, ILLINOIS
Branch Offices: New York • Philadelphia • Atlanta • Detroit • Chicago • St. Louis • Dallas • San Francisco

▲ For more details circle **NED-453 D4** on enclosed inquiry slip ▲

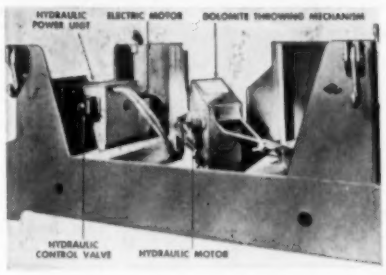
SURFACE GRINDER
clearance is 13½ in. under wheel



A 6½ x 16-in. table travel and 13½-in. clearance under the grinding wheel are features of the Surf-Ace surface grinder. Machine can be supplied with either Pope, Ex-Cello-O or Whitnon precision cartridge type spindle and incorporates a cast iron base and hand-scraped vee and flat ways. Standard 7 x ½ x 1½-in. wheel is used. Handwheels are readily accessible for fast grinding and are graduated in 0.0001-in. increments. Machine is adapted for crush grinding. Distributed by **American Machinery Co.**, 315 Asylum St., Bridgeport, Conn.

▲ For more details circle **NED-455 D4** on enclosed inquiry slip ▲

DOLOMITE MACHINE DRIVE
installation reduces maintenance



Operation of Blaw-Knox dolomite machines is simplified, throwing mechanism is lightened, and electrical and mechanical maintenance is reduced by installation of this hydraulic drive, available for conversion of older style machines. Hydraulic motor which drives the belt is driven by pump powered by 7½-hp ac or dc motor at right of pressure reservoir. Entire hydraulic power unit is in square tank shown in photo. Variation of belt speed is by hydraulic control valve, with electric motor operating at constant speed. Drive can also be applied to car drive axle on self-driven machine by using 25-hp motor on hydraulic system pump to drive both car drive motor and belt drive motor. Made by **Blaw-Knox Co.**, Steel Plant Equipment Dept., 2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

▲ For more details circle **NED-456 D4** on enclosed inquiry slip ▲

DO YOU KNOW? Machine tools can now be obtained on any of three Tool-Lease plans which are based upon 7-year rental agreements. They differ in the options, and permit termination or purchase at specific times. Plan is said to release working capital for other purposes, avoid financial risks and simplify the financial structure of a company. For full details of this plan, write to Kearney & Trecker Corp., 6784 W. National Ave., Milwaukee 14, Wis.

▲ For more details circle **NED-457 D4** on enclosed inquiry slip ▲

FACTS PROVE

Bendix* Electric Fuel Pump is the outstanding choice for every operating condition!

- Performance-proven
- Longer Life • No Pressure "Droop"
- Dependable Operation at −75°F.
- Improves Low Temperature Starting
- Built-in Pressure Release
- Eliminates Vapor Lock
- Delivers More Gallons per Hour
- Easy to Install • Easy to Service
- Low Power Requirements
- Economical Operation
- Light Weight • Compact
- Rugged • Tamper-proof

Learn more about this new and improved fuel pump. Write for descriptive folder and specifications.

*REG. U.S. PAT. OFF.

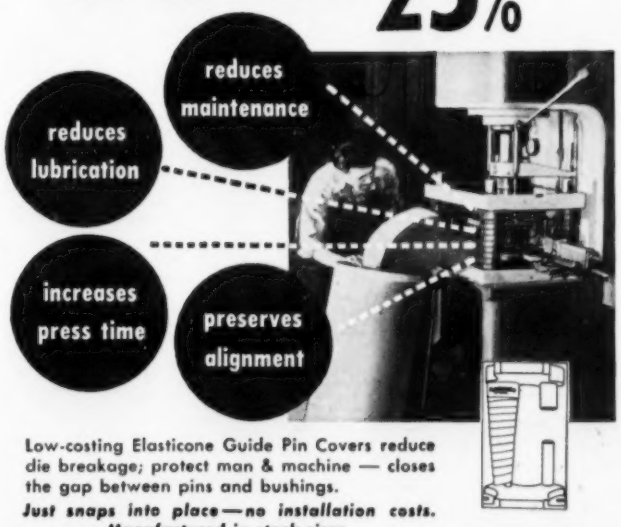
ECLIPSE MACHINE DIVISION
ELMIRA, N. Y.
THE NAME Bendix AVIATION CORPORATION MILLIONS TRUST

Bendix* Electric Fuel Pump
Bendix* Folo-Thru Starter Drive Stromberg* Aeroquad Carburetor

▲ For more details circle **NED-454 D4** on enclosed inquiry slip ▲

ELASTICONE® GUIDE PIN COVERS

CUT DIE COSTS 25%



Low-costing Elasticone Guide Pin Covers reduce die breakage; protect man & machine — closes the gap between pins and bushings.

Just snaps into place — no installation costs. Manufactured in stock sizes.

Write for full information and literature.

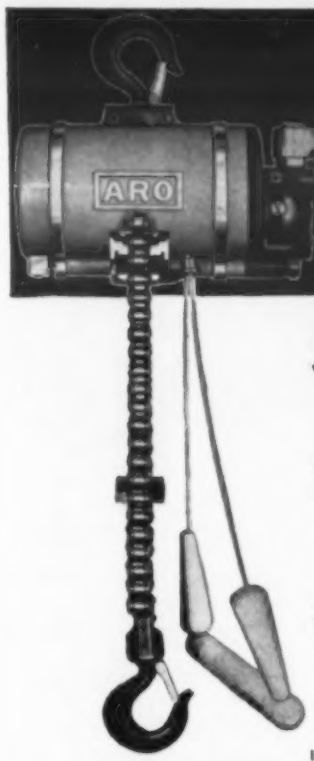
CENTRAL

2208 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

▲ For more details circle **NED-458 D4** on enclosed inquiry slip ▲

ARO 1000 pound AIR HOIST



SPEED... Lift rate . . . over 40 ft. per minute!

SIZE... Overall length 10¼" weighs only 28½ lbs.

SAFETY... Betters all safety requirements!

Write for full details.
The Aro Equipment Corporation
Bryan, Ohio
Offices in All Principal Cities
In Canada—Aro Equipment of Canada, Ltd. Toronto, Ont.

ARO AIR HOIST

Also . . . Air Tools . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings

▲ For more details circle **NED-459 D4** on enclosed inquiry slip ▲

FREE! New J-M "packing selector"

. . . to help you find the right packing in a hurry

Why take chances with "any old packing" and run the risk of shutdowns and the expense of frequent replacements?

This handy new "packing selector" tells you at a glance the *right* Johns-Manville packing or gasket for practically any power plant application. Its recommendations are based on the experience of J-M engineers in solving packing problems and lowering packing costs in thousands of plants.

For your free copy, write Johns-Manville, Box 60, New York 16, N. Y. Ask for "Packings for the Power Plant."

JM Johns-Manville PACKINGS & GASKETS

▲ For more details circle **NED-460 D4** on enclosed inquiry slip ▲

Reproduce any pattern in almost any medium on almost any surface...

by silk screen printing with the

KODAK EKTAGRAPH PROCESS

It will pay you to investigate this precise but low-cost method of printing instrument dials, electrical circuits, nameplates, charts, instructions, trade-marks, etc., on almost any surface.

The Kodak Ektagraph Process provides an easy way to make silk screen stencils that print with *photographic* accuracy. The process is fast, inexpensive, simple. No darkroom is required.

For complete information write to:

GRAPHIC ARTS DIVISION
EASTMAN KODAK COMPANY
Rochester 4, N.Y.

Kodak

▲ For more details circle **NED-461 D4** on enclosed inquiry slip ▲

FAST, COMPACT—"Cargo Scout" is ideal for speedy service in congested areas, narrow aisles, inside box cars, road trucks, etc.

LOW OPERATING COST—electric power costs only pennies per day. No fumes, or vulnerable clutch.

360° STEERING plus 57" turning radius gives greater maneuverability.

EASIER MAINTENANCE—all parts instantly accessible for faster lubrication or inspection.

END CONTROL—better vision, safer, easier to get on and off.

TELESCOPING UPRIGHTS. 100" of lift with only 68" overall height, with uprights retracted, and full 50" of free lift.

WRITE FOR FULL DATA on the brand new, 2000 lb. capacity "Cargo Scout". The Elwell-Parker Electric Co., 4093 St. Clair Avenue, Cleveland 3, Ohio.

▲ For more details circle **NED-462 D4** on enclosed inquiry slip ▲

To save money, let 'em roll on the NEW MHS WHEELVEYOR

Here's the inexpensive, rugged, practical, *money-saving* way to move smooth, full-bottomed commodities in plant, warehouse and store, and to and from carriers. Save time, money and manpower with new MHS Wheelveyor!

Many great features for long service, easy operation, extreme flexibility and economy. Get your copy of Wheelveyor bulletin and plan your own Wheelveyor installation. Write today!

SEND FOR FREE BOOK!

MECHANICAL HANDLING SYSTEMS INC.
4615 Nancy Ave., Detroit 12, Michigan
Offices in Principal Cities
In Canada: Canadian Mechanical Handling Systems Ltd.—Factory in Windsor

▲ For more details circle **NED-463 D4** on enclosed inquiry slip ▲

Easy way to handle heavy storage bins

You'll save time and effort . . . work with greater ease . . . in moving heavily loaded bins in and out of storage.

Cradled in Roller Bearing Slides, bins roll out at a finger's touch—contents are immediately accessible. It's much faster and easier to remove or refill bins; to count or weigh contents. Stops prevent slide from being pulled out more than halfway, bins cannot fall out or spill contents.

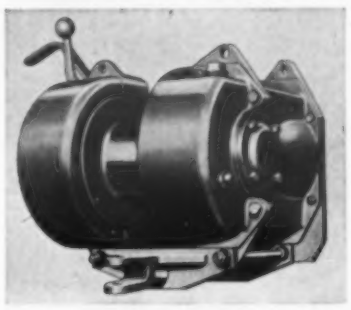
Roller Bearing Stacktracks® are individual units that lock together to form storage units of any size, shape or height. Completely flexible, they can be re-arranged quickly, without using tools. Get all the facts! Write for catalog.

STACKBIN CORPORATION
1081 Main Street
Pawtucket, R. I.

STACKBIN® SYSTEM
"Stacked and Still Accessible"

▲ For more details circle **NED-464 D4** on enclosed inquiry slip ▲

ALL-PURPOSE WINCH
has two speeds forward and reverse



Designed to handle all the power of medium sized industrial tractors, model FO-1 all-purpose winch has two speeds forward and two reverse. Based on 84 belt hp at 1600 rpm the two speeds develop line pulls, with full drum, of 16,150 lb at 172 fpm and 71,070 lb at 35 fpm with bare drum. Concealed cable controls, automatic brake, dirt and oiltight case and constant mesh gear train are other features of unit, which has capacity of 292 ft of 1-in. line. A smaller capacity companion model is designed for tractors up to 30 hp, has a line capacity of 134 ft of ½-in. line and a maximum line pull of 10,000 lb. Made by **Pacific Car & Foundry Co.**, Catalog Dept. C, Renton, Wash.

▲ For more details circle **NED-465 D4** on enclosed inquiry slip ▲

PORTABLE FILTER
has ½-hp motor and 4-gpm pump

Lubricating and hydraulic oils, coolants and wide range of heavy and thin industrial fluids can be filtered with this Cuno portable micronic filter equipped with ½-hp motor and 4-gpm gear pump. Unit, which also includes oil-resistant hose and gages, can be moved easily from machine to machine. Filter will remove all particles down to 25 microns in size. Special designs are available with centrifugal pumps, higher capacities and degrees of filtration of 10 and 50 microns. Made by **Cuno Engineering Corp.**, Dept. 7073H, 80 S. Vine St., Meriden, Conn.

▲ For more details circle **NED-466 D4** on enclosed inquiry slip ▲

DO YOU KNOW? Welding of aluminum using tungsten arc and consumable electrode methods is shown in full color in 16-mm sound motion picture "Welding Advances With Aluminum." Use of these inert gas methods is presented to demonstrate many of the jobs which have been simplified in manual, automatic and semiautomatic welding of aluminum. Applications include pressure vessels, castings repair and weldment production. Alcoa research facilities are pictured. Available free for group showings from Aluminum Co. of America, Motion Picture Section, 818 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle **NED-467 D4** on enclosed inquiry slip ▲

"SHADE"
Remarkable Vinylite Sheeting that ABSORBS Heat and Glare

SHADE will never become brittle or crack even in temperatures from —25 to 150 F. All you need is a squeegee, a bucket of water, and some pieces of factory pre-cut SHADE to eliminate glare and heat. Easy to apply, permanent and washable, SHADE is custom cut to fit your windows—Order yours today!

The unfiltered rays of the sun, even on a cloudy day, can be a major cause of fatigue. SHADE is a specially formulated compound to filter light!

NO MORE PAINTING
No need for repeated painting of glass surfaces: with SHADE you have an easily applied filter, *bonded* to the glass. It won't crack or grow brittle.

EASY TO APPLY
Application requires no special skill or tools. It is pre-cut at the factory. Wet, place polished side to glass, squeegee out excess water.

PERMANENT
Following out this procedure will effect a permanent bond. SHADE will never come off until you pry up a corner and strip it off yourself.

WASHABLE
Can be washed like regular glass. If you wish to remove it, a quick washing in warm water will restore its adhesiveness.

COLOR CHOICES
Colors are available in FROSTED TRANSLUCENT, ARCHITECTURAL BLUE, TRANSPARENT BLUE, FILTERED WHITE, OLIVE GREEN, TRANSLUCENT GREEN and BLACK-OUT BLACK.

TRANSEAL, Ltd.
Dept. NED, 100 Oak Tree Ave., South Plainfield, N. J
Telephone PLainfield 6-3800

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For faster, safer, better presswork
LEADING MANUFACTURERS LOOK TO FEDERAL...

FEDERAL PRESSES

Here's another leader who relies on Federal Presses to speed production, eliminate accidents, maintain high quality. These rugged presses are precision-built and embody the finest materials and workmanship. Offered in four major classes—Standard, Dial Feed, High Speed and Special presses—in a wide range of sizes. Write for catalog.

No. 7 Standard Press
Capacity, 80 tons.

FEDERAL PRESS COMPANY
506 Division Street Elkhart, Indiana

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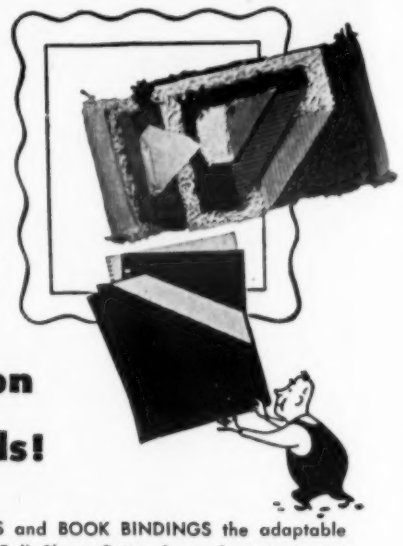
YOU, too, can hang up good production records!



With BATH MATS and BOOK BINDINGS the adaptable BECK Automatic Roll Sheet Cutter is an important part of the production picture . . . and it can help you in your cutting problems, too . . . just as it does "rug-cutting" at Katherine Chenilles, Dalton, Ga., and as it helps in the production of Ful-Vue books at Cook's, Inc., Camden, N. J.

Booth #223-225

Remember: If it comes in rolls, the Beck will cut it, count it and stack it!

Whatever your cutting problem is, Beck can help you. Write

CHARLES BECK MACHINE CORPORATION
409 N. 13th Street Philadelphia 8, Pa.

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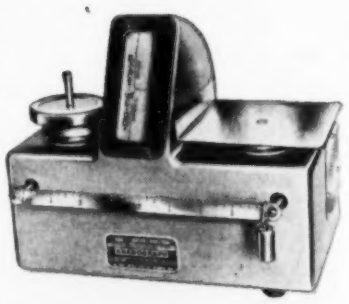
SHADOGRAPH . . . for Fast Precision Weighing



SHADOGRAPH's shadow-edge indication is projected by a beam of light, eliminating all friction of indicating mechanism and increasing visible accuracy over 300%. Greater speed is achieved through reduction of lever movement and by the action of an adjustable damping device. Parallax reading is impossible. Ideal for precise compounding, for weighing costly materials, or for dozens of other uses calling for extreme accuracy. Available in a wide range of capacities and sensitivities. Write for full details.

Exact Weight Scales
Better quality control
Better cost control

THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St. W., Toronto 18, Canada

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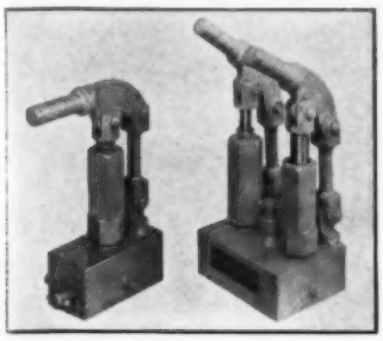
HAND HYDRAULIC PUMP

Single and Double Designs to 20,000 Psi
With or without Reservoir



Standard Reservoirs 70- 160- 910 Cu. In. Capacity

Interchangeable Pistons ⅜-½-¾ Inch

1-inch Piston (Special)

Pipe connections ¼" N.P.T.

Handle length is 18 inches.

Unit can be bolted or welded into position.

"We specialize in hand pump units to operate in temperatures from minus 65 F to plus 160 F and with any capacity reservoirs required."

The single pump with ½" or ¾" piston now available in stainless steel.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-472 D4** on enclosed inquiry slip ▲

NEW STRAPPING TAPE

Brainard now offers complete service— steel strapping and strapping tape

● The Brainard Strapping System, comprising a complete line of steel strapping, tools, and accessories, has now been expanded to include strapping tapes, both pressure-sensitive and gummed, and dispensers for all applications. The tapes are filament-reinforced to provide high tensile strength, and are designed for strapping applications. Brainard is the first company to offer both strapping methods. Brainard can give you unbiased recommendations on the best method for your applications. Most shipping departments and packaging lines can use both steel strapping and strapping tape to advantage.

Brainard
STEEL DIVISION
SHARON STEEL CORPORATION

For booklet write
BRAINARD STEEL DIVISION
Dept. HH-4, Griswold Street
Warren, Ohio

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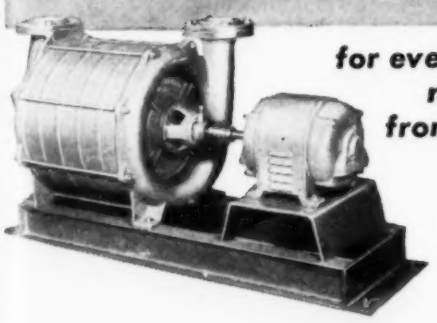
LAMSON BILLMYRE BLOWERS & EXHAUSTERS



for every pressure requirement from ½ to 7 lb. ...single or multi-stage design

Cast iron or fabricated steel, for air or gas—agitating, aerating, combustion, cooling, ventilating, gas and acid manufacture. Guaranteed consistently even pressure without contamination. Low maintenance cost, as shaft-impeller assembly is only moving part—eliminates constant checking.

Get *ALL* the facts...a complete information file—engineering laws, tables, features, applications, and lots more...all in Lamson Billmyre Blower and Exhauster Catalog B-6...*YOURS* for the asking!

LAMSON

LAMSON CORPORATION
2004 Lamson St., Syracuse 1, N. Y.

Plants at Syracuse and San Francisco

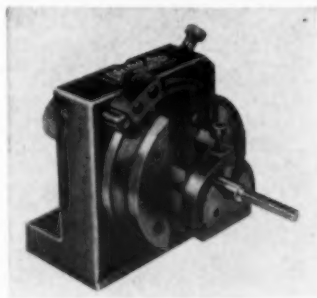
▲ For more details circle **NED-474 D4** on enclosed inquiry slip ▲

ROTARY LIMIT SWITCH
offered with various gear ratios

Usable where movement can be expressed as shaft revolutions, this rotary limit switch with a cam and gear mechanism is intended for reversing movement between two limits, such as opening and closing of electrically operated doors, large valves and machinery. Large selection of gear ratios, plus easily adjusted locking cams, assures an unlimited control of the movement between any two limits. Gears are made of bronze and steel with Oilite bearings. The ½-in. steel drive shaft extends beyond the Fibreglas alloy case for linking to the motive force. NEMA type 4 and 7 enclosures are also available. Electrical circuit has two cam-operated Micro switches. Made by **Gemco Electric Co.**, 25685 W. Eight Mile Rd., Detroit 19, Mich.

▲ For more details circle **NED-475 D4** on enclosed inquiry slip ▲

GRINDING FIXTURE
for perforating machine punches



Designed for perforator grinding operations, Grind-All fixture grinds all types of regular and irregular contours concentric with perforator shank to within plus or minus 0.0002-in. Radius generating feature makes fixture well adapted to carbide grinding. Rotating index plate has twenty-four 15-degree graduations, and adjustable stops permit a swing to any number of degrees. Preloaded ball-bearing type construction is used, sealed against dust and grime. Fixture is completely hardened and ground, and can also be used for light milling, drilling, boring and inspection operations. Made by **Harig Mfg. Corp.**, 5757 W. Howard St., Chicago, Ill.

▲ For more details circle **NED-476 D4** on enclosed inquiry slip ▲

DO YOU KNOW? Fast accurate electronic proof that your car is or isn't operating efficiently is possible with the Uni-Tuner. This compact tester enables a mechanic to check the ignition, generating, starting and compression systems in 10 minutes. Device is about the size of a portable radio and is made by Allen Electric & Equipment Co., 2107 N. Pitcher St., Kalamazoo, Mich.

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SAFETY EQUIPMENT FOR ALL INDUSTRIES

4 OUTSTANDING FEATURES IN THESE IPCO All Steel WASTE RECEPTACLES

1. FIREPROOF
2. SELF-CLOSING
3. SANITARY
4. CONVENIENT

Fitted with an inner bag or separate metal container, either of which is easily removed for disposing of contents. Strongly made of heavy gauge furniture steel, baked enamel finish. Choice of sizes and colors.

WRITE FOR BULLETIN NO. 60

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

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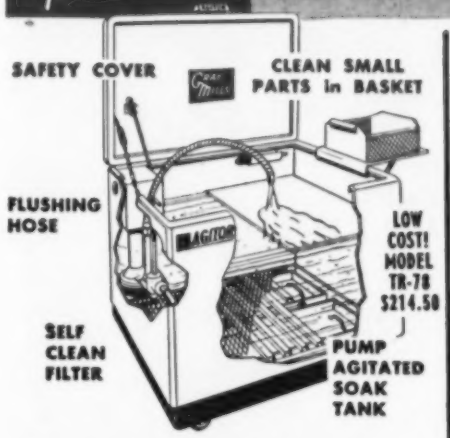
for your parts cleaning problems--- a **GRAYMILLS COLD DEGREASER** saves time, cleans better, at less cost



USED BY 3854 PLANTS FOR JOBS LIKE THESE:

- Cleaning dies, tools, etc.
- Flushing machined parts
- Flushing "Hydraulic" parts
- Cleaning bearings
- Cleaning Motors and Electrical Equipment
- Maintenance and Service Work
- Removing Rust Preventatives

THE SAFE, EASY, LOW COST WAY TO REMOVE OIL, CHIPS, GREASE, DIRT and PRESERVATIVES ON JOBS LIKE THIS:

For production, maintenance or service. Use safe, non toxic, low cost solvents. 15 Models. 40 to 300 gallon capcity.

SEND FOR NEW CATALOG

No Installation Headache Portable Too!

GRAY-MILLS

GRAYMILLS CORPORATION
3717 NORTH LINCOLN AVENUE • CHICAGO 13, ILLINOIS
WEST COAST: 4511 MELROSE AVE. • LOS ANGELES 29

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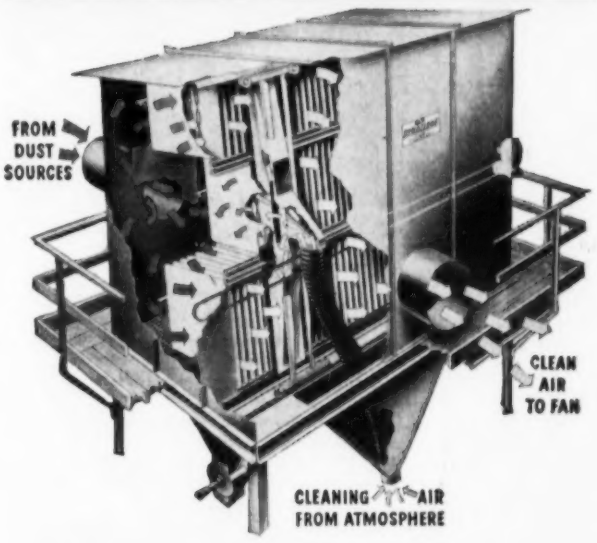
THE
DYNACLONE®
PATENTED
The ULTIMATE in Dust Filters



1. ***CONSTANT SUCTION*** AT DUST SOURCES
2. ***SELF CLEANING*** FOR CONTINUOUS OPERATION
3. ***NO AUXILIARY MOTORS OR BLOWERS*** (THE MAIN OPERATING FAN DOES THE CLEANING)
4. ***NO ABRASION OF BAGS BY THE CLEANER***

HOW IT OPERATES

(a) Dust laden air is drawn in from the dust sources as indicated by the shaded arrows.

(b) It is diffused into the dust chamber by the baffle plate.

(c) It is then drawn through the fabric of the filter bags and is cleaned as shown by the clear arrows.

(d) Clean air passes out of the case and goes to the suction fan.

(e) Concurrently, the traveler moves back and forth across the dust wall registering successively with one bag at a time.

(f) The suction which exists in the dust chamber draws a blast of atmospheric air through the bag in reverse directions and cleans that bag. (No shaking.)

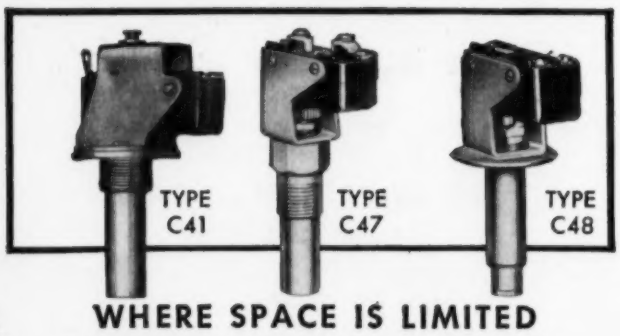
SEND FOR BULLETIN NO. 102

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 2, OHIO
New York • Chicago • Philadelphia • Syracuse • Detroit • Buffalo
Cincinnati • St. Louis • Minneapolis • Birmingham • Los Angeles • Toronto

▲ For more details circle **NED-480 D4** on enclosed inquiry slip ▲

▲ For more details circle **NED-481 D4** on enclosed inquiry slip ▲

▲ For more details circle **NED-482 D4** on enclosed inquiry slip ▲



WHERE SPACE IS LIMITED OR LIGHT WEIGHT ESSENTIAL

specify UE skeleton temperature control

UE skeleton temperature controls are precision-built, compact, inexpensive units, with uniform on-off differential, designed particularly for air or liquid temperature control. All three have wide temperature ranges.

Any of these types can be readily adapted to a wide variety of applications. Switch ratings are 15 amps at 115 or 230 volts AC. DC or 20 amp AC switches available.

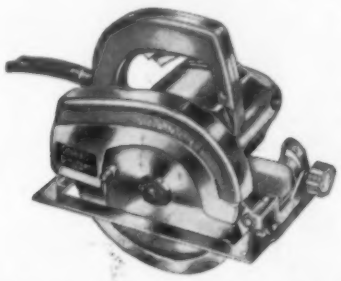
Write today for bulletin #2-2.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

▲ For more details circle **NED-483 D4** on enclosed inquiry slip ▲

ALL-PURPOSE SAW
is portable 7-in. electric tool

Ball and roller bearing construction, multigrip handle with pebble finish, built-in dust blower and no-load speed of 5200 rpm are among features of compact, 12-lb W70 7-in. builders saw. Easy to handle, saw will cut a dressed 2-in. board at 45 degrees and from ⅜ to 2⅜ in. at 90 degrees. Steel base extends on both sides of blade for all-direction cutting. Window allows view of blade whether operator is right or left-handed. Special blade flanges protect motor from shock loads caused by striking nail or cutting warped boards. Unit will accommodate ⅛-in. abrasive wheels and is furnished with combination rip and crosscut blade, wrenches, lubricant and metal carrying case. Made by **Stanley Electric Tools,** 104 Elm St., New Britain, Conn.



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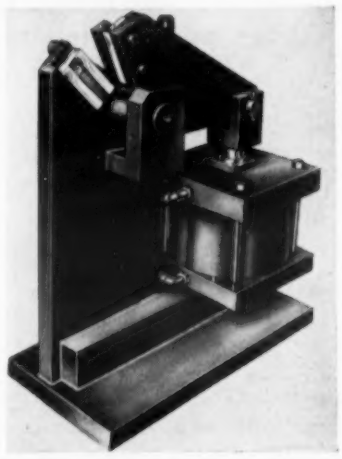
AIR-OPERATED SHEAR
for cropping hot bars

Capacity to crop up to 1¼-in. diameter hot rounds at any air pressure between 60 and 100 psi is designed into the type B air shear. It is a portable unit for cropping ferrous and nonferrous bar and is completely air operated. Four-edged knives are standard equipment, with set screws provided for adjustment after grinding. Unit operates automatically only at time of actual cutting. Made by **Curry Air Shear Corp.,** Dept. 50-S-1, 941 Oliver Bldg., Pittsburgh 22, Pa.



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DO YOU KNOW? Industrial plants which provide free work gloves to employees have only about half as many hand accidents as plants which do not supply them free. It was also found that other accidents were less, giving credence to the thought that plants which supply free work gloves also have more effective safety programs. Survey conducted by C. Walker Jones Co., Dept. D, 6135 N. Lambert St., Philadelphia 38, Pa.

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HOW TO SAVE MATERIAL AND LABOR IN PIPING LAYOUTS

Here is a special fabricating service designed to save time, material and labor in piping systems. By eliminating numerous flanged joints and combining several fittings into one integral unit, as illustrated, Naylor fabrications provide the answer for greater efficiency and economy.

All types of materials can be fabricated accurately to your specifications. Sizes range from 3" to 44" in diameter and wall thicknesses up to ⅜".

Naylor Bulletin No. 525 presents helpful information on this special service. Write for your copy today and submit your problem for recommendation and quotation.

NAYLOR PIPE

Naylor Pipe Company • 1247 East 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office 350 Madison Ave., New York 17, N.Y.

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▲ For more details circle **NED-488 D4** on enclosed inquiry slip ▲

THE TORRINGTON COMPANY
Specialties Division
808 Field Street, Torrington, Conn.

TORRINGTON SPECIAL METAL PARTS

Makers of Torrington Needle Bearings

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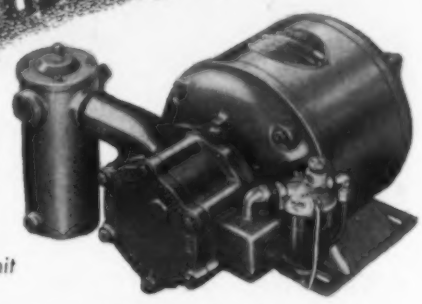
MOTOAIR

VACUUM PUMP



COMPACT!

motor and pump in ONE integral unit

Extremely compact design makes Motoair ideal for any machines where sustained or intermittent vacuum is required—also for Laboratory work. Visible, automatic, circulating lubricating system. Made in several sizes.

823

Send for Catalog details . . .

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

For more details circle NED-490 D4 on enclosed inquiry slip

SAVE 50% on ROOF REPAIR

FREE BOOK SHOWS HOW 90% of Leaky Roofs Can be *Saved*

Cut Costs in HALF with Unskilled Labor

There are no secrets or special skills to good roof repair! Free step-by-step book shows exactly how to recondition roofs . . . to give 90% of leaky roofs extra years of weather-tight life . . . to do the job right with unskilled labor at HALF the cost. Your business letterhead request brings "Saving Old Roofs" free. Write today!

THE TROPICAL PAINT & OIL COMPANY

1124-1280 W. 70th • Cleveland 2, Ohio

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

For more details circle NED-491 D4 on enclosed inquiry slip

STICHT TACHOMETERS

FOR EVERY NEED... EVERY SPEED

ACCURATE · DEPENDABLE · QUALITY BUILT

CENTRIFUGAL HAND TACHOMETERS

Universal Type U with 5 ranges in one instrument.

CAT. NO. 303, 30-12,000 RPM
CAT. NO. 314, 45-18,000 RPM
CAT. NO. 322, 60-24,000 RPM
CAT. NO. 346, 120-48,000 RPM

Many other models with one, three or five ranges.

BULLETIN NO. 750

CHRONOMETRIC HAND TACHOMETERS

"Jaquet" Speed Indicators with built-in chronometer movement. Timing period 3 or 6 seconds. Guaranteed accuracy 1/2 of 1 per cent.

CAT. NO. 2301, 0-10,000 RPM
CAT. NO. 2302, 0-1,000 RPM
CAT. NO. 2304, 0-100 RPM

Suitable double rated speed.

Nine models. Various accessories.

BULLETIN NO. 735

CENTRIFUGAL STATIONARY TACHOMETERS

For permanent mounting on machines. Model J. Sizes 3 in., 4 in., 5½ in., 8 in. and 10 in. dial diameters. Flexible cable driven. Many standard ranges reading RPM, FPM, YPM, etc.

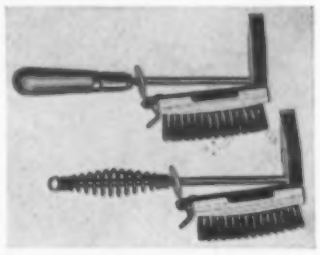
BULLETINS NOS. 794, 795, 796

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

Tachometer Headquarters

For more details circle NED-492 D4 on enclosed inquiry slip

WELD CLEANING TOOLS
improved for durability, easier use



Re-engineering of standard models A (metal handle) and AW (wood handle) Dual Tools makes these weld cleaning tools more durable and easier to use. Brush is now pitched at angle so that its whole surface can be applied to weld without scraping knuckles. Frame which holds brush and handle is heavier gage steel and is ribbed for additional rigidity. Chisel is welded to frame and handle instead of being riveted. By simply pulling back double tension spring that secures brush in frame, brush can be replaced or reversed. Hand guard provides surface against which tool can be pushed. Made by **Atlas Welding Accessories Co.**, 707 E. Lewiston St., Ferndale 20, Mich.

For more details circle NED-493 D4 on enclosed inquiry slip

FUME HOODS
air speed over work is constant

Parabolic cutout directly over the sash opening or work area in these fume hoods for chemical laboratory and other uses increases the air passing from the room directly into hood plenum chamber in proportional amounts as the sash is lowered. This results in a constant speed of air being drawn across the work surface, regardless of the sash position. For air conditioned rooms where it is important not to enlarge the amount of make-up air for the room unnecessarily, hoods are available without the parabolic cutout but with an inner chamber which allows fresh air to be brought in around the open work area and then removed with the fume exhauster. Made by **A. B. Stanley Co.**, Dept. A, 114 Florence St., Chestnut Hill 67, Mass.

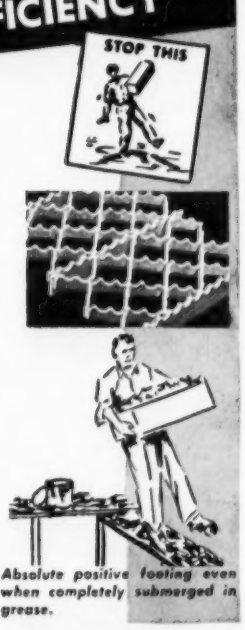
For more details circle NED-494 D4 on enclosed inquiry slip

DO YOU KNOW? Three-dimension slide color film series details the production of precision investment castings by the frozen mercury process. Just how intricate and complex shapes are cast to precision tolerances is shown clearly. Each stage of production from die to finished part is covered. Film series will be shown to designers, engineers and executives without cost by Alloy Precision Castings Co., E. 45th & Hamilton, Cleveland 14, O.

For more details circle NED-495 D4 on enclosed inquiry slip

Compare This Positive Footing Multi-Feature "Safety Grating"

CUTS DOWN ACCIDENTS ELIMINATES DANGER SPOTS IMPROVES EFFICIENCY



Bustin

FIRM-GRIP

SAFETY GRATING

Help Yourself in your effort to eliminate skidding accidents.

Try BUSTIN FIRM-GRIP.

This recently developed unique "Safety Grating" has proven to safety engineers of major industrial concerns across the continent its unusual value in eliminating accidents.

*Pat. Pending

Absolute positive footing even when completely submerged in grease.

Bustin

Write for Complete Literature

FIRM-GRIP GRATING CORP.

Dover, New Jersey Dover 6-8800

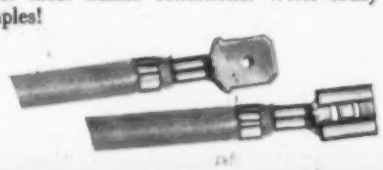
"BUSTIN—Designers and Manufacturers of Metal Products Since 1928"

For more details circle NED-496 D4 on enclosed inquiry slip

are Sweeping the Electrical Industry!

More and more manufacturers are getting into the swing to AMP FASTON connectors! Timers, clocks, switches, outlets, controls—all types of electrical components when equipped with AMP FASTON tabs not only *cost less* to produce, but offer all the advantages of easier, faster wiring on the line. To install, simply push FASTON on its mating tab. Wiring is accomplished in a fraction of the time required for screw-type terminal posts!

Triple spring action and wide wiping contact of AMP FASTON provides excellent electrical connection. U.L. approved, patented, AMP F CRIMP is voidless—gives high tensile strength and resists corrosion even under most humid conditions. Write today for information and samples!



Aircraft-Marine Products, Inc.

2100 Paxton Street, Harrisburg, Pennsylvania

For more details circle NED-497 D4 on enclosed inquiry slip

tools that Streamline electrical maintenance

FOR ELECTRONIC TROUBLE SHOOTING

WESTON Model 785 Industrial Circuit Tester

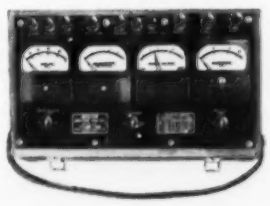
A multi-range, multi-purpose, ultra-sensitive analyzer, for laboratory and industrial checking of electrical and electronic circuits. Has 28 practical scale ranges; measures d-c and a-c voltage, d-c and a-c current, and resistance. Accessories available to extend ranges. Compact and portable; oak or steel case.

FOR MOTORIZED EQUIPMENT

WESTON Model 633 Clamp Volt-Ammeter

For convenient and rapid measurement of a-c voltage and current without breaking the circuit. Jaws take insulated or non-insulated conductors up to 2" diameter. Has 6 position thumb switch for range selection, and adjustable pointer stop for measuring motor starting current. Also available as a-c clamp ammeter, without voltage ranges.

FOR POWER PROBLEMS



WESTON MODEL 639 A-C Industrial Analyzer

A combination Voltmeter, Wattmeter, Power Factor Meter, Ammeter with all interconnections made. Only one hook-up required to measure a-c current, voltage and power in single and polyphase circuits, and power factor in 3 phase, 3 wire balanced circuits. Adequately insulated binding posts, high overload capacity.

AVAILABLE THROUGH LEADING DISTRIBUTORS

WESTON Instruments

WESTON Electrical Instrument Corporation

614 Frelinghuysen Avenue, Newark 5, New Jersey

For more details circle NED-498 D4 on enclosed inquiry slip

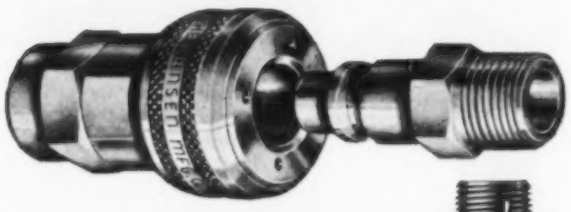
HANSEN

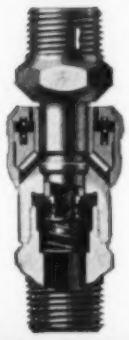
QUICK-CONNECTIVE

PUSH-TITE COUPLING

TRADE MARK

Provides Instant Automatic Flow or Shut-Off





To connect a Hansen Push-Tite Coupling, you merely push the Plug into the Socket with one hand. Flow is instantaneous.

To disconnect, push back sleeve on Socket . . . Coupling disconnects and flow is shut off instantly and automatically. No tools required. When Coupling is connected, Plug is free-swiveling, thus eliminating any possibility of kinks in hose.

Two-way shut-off and straight-through Couplings also available. WRITE FOR CATALOG

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

For more details circle **NED-499 D4** on enclosed inquiry slip

2000...6000 PSI HYDRAULIC PRESSURE

From Your Shop Air Line

With this WATSON-STILLMAN Double Acting Air Engine Pump

A compact, lightweight hydraulic pump for many applications:

- For Hydrostatic testing
- As a pumping unit for all types of hydraulic service
- To operate hydraulic jacks or machinery
- To fit your special hydraulic applications

Simply connect the pump to your shop air line or field compressor. Operates on pressures from 50 to 150 psi.

Write today for Bulletin A-5

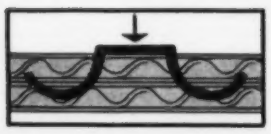
WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

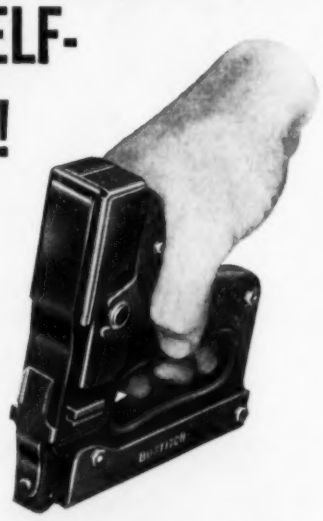
2-A

For more details circle **NED-500 D4** on enclosed inquiry slip

LOOK! A SELF-CLINCHER!

No blade to insert! Staple spreads itself under or inside the work!





Bostitch T5 Tacker → with outward clinch

Use it for stapling insulation around pipes and ducts . . . fastening shipping tags to corrugated containers . . . any job that calls for a blind clinch. By lightly pressing the handle you automatically drive a staple and turn its legs outward to clinch under or inside the work. Two models for light and medium staples. Call the Bostitch economy man in your area.

Fasten it better and faster with

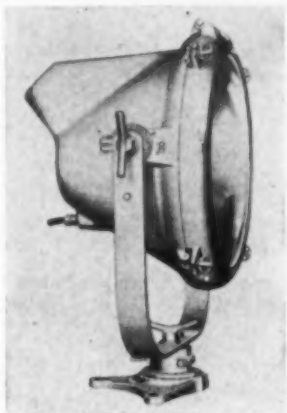
For more information about the Bostitch T5 Tacker with outward clinch, write BOSTITCH, 684 Mechanic St., Westerly, R. I.

BOSTITCH®
STAPLERS AND STAPLES

For more details circle **NED-501 D4** on enclosed inquiry slip

ENCLOSED FLOODLIGHT

protected against weather and dirt

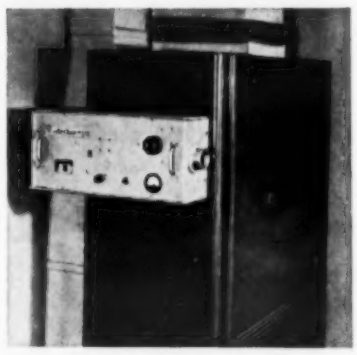


Fully enclosed for protection against weather and dirt, 20-in. type 20175 floodlight is made of corrosionproof materials and meets all lamp burning position requirements with full vertical beam coverage. It will burn 1000-w G-40, 1500-w G-48 and 1500-w PS-52 lamps which have special burning positions, as well as 750 and 1000-w PS-52 lamps and 700 and 1000-w mercury vapor lamps. Full 360-degree vertical and horizontal body adjustments have locking device to avoid accidental movement. Variety of door lenses and mounting bases is available. Made by **Pyle-National Co.**, 1342 N. Kostner Ave., Chicago 51, Ill.

For more details circle **NED-502 D4** on enclosed inquiry slip

OZONE GENERATOR

for use in heating, cooling systems



Odor-free air can be produced for circulation by forced air heating or cooling systems by installation of a compact, self-contained ozone generator. Unit mounts on the sidewall of a heating-cooling unit or on the suction side or an air duct where ozone can be introduced directly into the airstream. Only a small amount of ozone is required to destroy odors. Generator has no moving parts and requires virtually no maintenance other than periodic cleaning. Made by **General Ozone Corp.**, Dept. 21, 855 W. Washington Blvd., Chicago 80, Ill.

For more details circle **NED-503 D4** on enclosed inquiry slip

DO YOU KNOW? The Doubleday Employee Library Plan is being offered as a low-cost method of installing a personnel recreational library in industrial plants. This employee relations service will enable plants to stock the best new fiction and nonfiction books issued by leading Book Clubs. Book assortment can be varied to suit the reading interests of all employee groups. Basic library of 144 volumes, selected from a large number of best sellers and useful references, is $161.86. Complete library supplies are included as part of plan. For details, write C. Earl Cooley, Doubleday & Co., 575 Madison Ave., New York 22, N. Y.

For more details circle **NED-504 D4** on enclosed inquiry slip

= POSITIVE POSITIONING

Photos: Courtesy Spanich Bonding & Welding Co., Livonia, Michigan

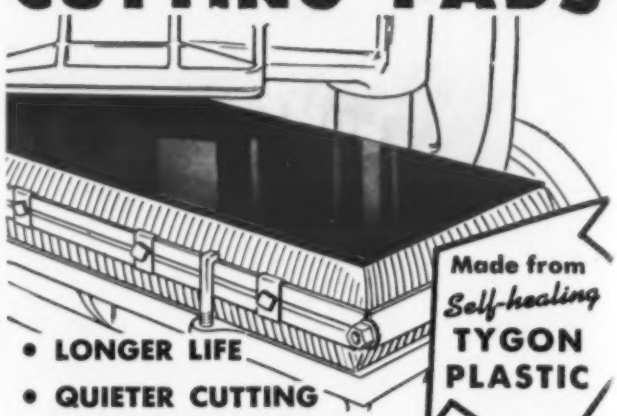
The "Hot Shot" Bonding machine shown above was specially designed for the production department of one of the largest manufacturers of electrical appliances when previous methods of processing their parts proved unsuccessful. The positive clamping action of eight Model 340 De•Sta•Co Heavy Duty Toggle Clamps now enables one operator to produce 3840 completed brake-shoes per 8-hour work day. Fast acting De•Sta•Co clamps hold parts firmly together during the 550° F. bonding operation.

There's a De•Sta•Co Toggle Clamp engineered for any of your work-holding problems in assembly, bonding, welding, machining or inspection. Select from over 40 fixture and portable models. Positive holding pressures up to 4,000 pounds. Write today for a copy of the De•Sta•Co catalog describing available stationary and portable toggle clamps.

DE·STA·CO DETROIT STAMPING CO.
360 MIDLAND AVE. • DETROIT 3, MICH.
SEE US AT THE TOOL SHOW, BOOTH 440, PRECISION HALL

For more details circle **NED-505 D4** on enclosed inquiry slip

CUTTING PADS



Made from *Self-healing* TYGON PLASTIC

- **LONGER LIFE**
- **QUIETER CUTTING**
- **CLEANER, SAFER CUTS**
- **USABLE ON BOTH SIDES**

Colonial self-healing Cutting Pads on clicker machine or hand die cutting often double, even triple die life. Clean, sharp cuts, no bounce backs, no splinters. Use Colonial Cutting Pads to cut leather, rubber, plastics, candy, paper, fibre, cork, felt, cloth, light gauge metals. 68C-1

Write for Sizes, Prices — Address Dept. NED 851

COLONIAL RUBBER CO.
RAVENNA, OHIO

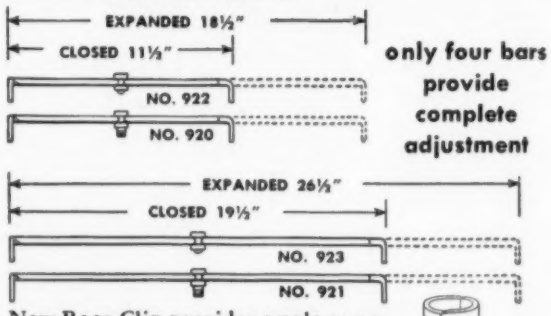
For more details circle **NED-506 D4** on enclosed inquiry slip

NOW! RACO OFFERS

the first adjustable bars that fill every requirement . . . pass every test!

STOCK JUST 4 BARS INSTEAD OF 16

Only 4 bars enable you to install any electrical switch or outlet box wherever you want it regardless of studding size or spacing.



only four bars provide complete adjustment

New Raco Clip provides ample room for device and added wiring space in all types of electrical boxes.

Write Today for Information on Raco Bar Hangers.

"A BOX FOR EVERY NEED"

ALL-STEEL EQUIPMENT INC., Aurora, Ill.

For more details circle **NED-507 D4** on enclosed inquiry slip

AMAZINGLY COMPACT GEARING!

The most frequently cited reason for specifying Cone-Drive gears and speed reducers is "their amazing compactness."

The reason why Cone-Drive gears are so compact is that they are 'double-enveloping'. They thus have more teeth in continuous contact and load per tooth is distributed more evenly over each tooth face.

As a result, smaller gears—up to ⅓ smaller center distances—can be used to carry the loads when Cone-Drive gears are specified.

If space saving is one of your design objectives, it will pay you to look into Cone-Drive gears and reducers . . . NOW.

They can be a big help to you and they are available in a wide range of standard sizes and ratios.

CONE-DRIVE GEARS Division, Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNichols Road • Detroit 12, Michigan

For more details circle **NED-508 D4** on enclosed inquiry slip

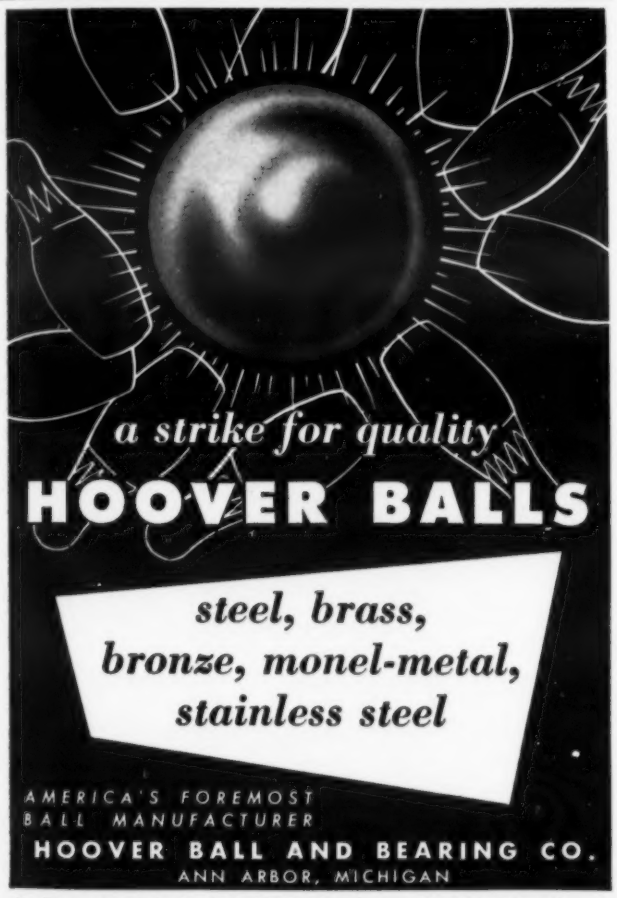
modernize materials handling with

CARGOTAINERS®

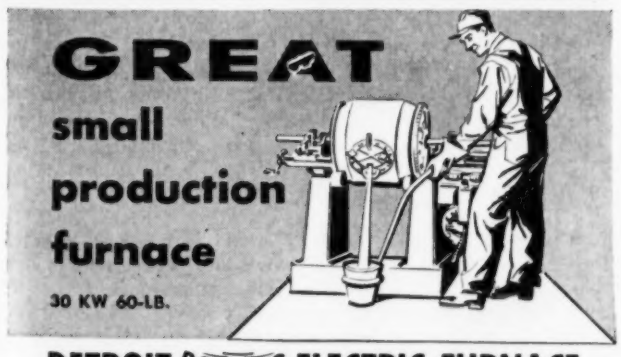
Cargotainers are designed to keep pace with modern methods of materials-handling because they are: 1. Sturdy and resistant to shock; 2. Readily folded when not in use; 3. Open mesh so that contents may easily be seen for quick inventory; 4. Efficiently designed for shipment, assembly line use, and vertical storage. Write for information concerning the new CLEARVIEW model with its exclusive base construction for greater durability and better locking and stacking. Dept. NED, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

For more details circle NED-509 D4 on enclosed inquiry slip



For more details circle NED-510 D4 on enclosed inquiry slip



DETROIT ROCKING ELECTRIC FURNACE

Here is the furnace designed especially for fast, controlled metal melting on a limited scale. Indirect arc melting, automatic rocking control with 3-phase reversible motor, independently mounted electrode brackets for easy shell interchange, low power consumption. Rocking action assures complete homogeneity of metal, greater heat utilization, longer lining life. For ferrous and nonferrous alloys. Excellent for research and educational use. Sold complete with transformer.

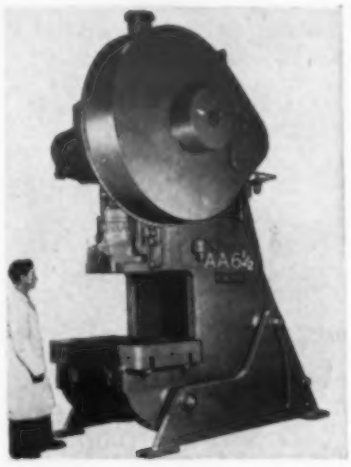
Write today for full information on Type GMS Detroit Rocking Electric Furnace.

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1060 26th St. • BAY CITY, MICHIGAN

Foreign Representatives: In BRAZIL—Equipamentos Industrias "Eisa" Ltd., Sao Paulo; CHILE, ARGENTINA, PERU and VENEZUELA: M. Castellvi Inc., 150 Broadway, New York 7, N. Y.; MEXICO: Casco, S. de R. L. Atenas 32, Despacho 14, Mexico City, D. F.

For more details circle NED-511 D4 on enclosed inquiry slip

OPEN BACK INCLINABLE PRESSES
electro-pneumatic clutch can be engaged at any point in stroke



Electrically controlled and air actuated clutch incorporated in series AA open back inclinable presses combines advantages of both friction and mechanical sleeve clutches. Assuring positive drive, it can be engaged or disengaged at any point in stroke. Press can be single stroked, jogged or run continuously. It stops automatically if power or air pressure fails.

Utilized for blanking, forming, drawing, perforating and combination die and automatic feeding operations, presses can be fed from either side or from front or back. Work can be discharged through opening in bed or opening in back. Presses are available in eight sizes with shaft diameters ranging from 3 to 7½ in. and can be arranged to meet individual requirements. Made by **Niagara Machine & Tool Works,** Northland Ave. & Chelsea St., Buffalo 11, N. Y.

For more details circle NED-512 D4 on enclosed inquiry slip

MOTOR CONTROL VALVES
for proportional control instruments

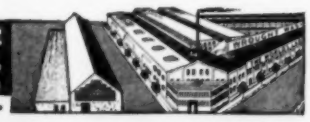
Engineering improvements incorporated in series 800 control valves include redesigned diaphragm motor with pressed steel case plates, yoke with mounting bosses on both sides for auxiliary equipment and locking arrangement for securing the body stem to the spring stem. Valves, for use with wide-band, proportional control instruments, incorporate direct-acting, reverse-acting and springless diaphragm motors. These are for operation of either double and single seated straight-through bodies or for Venturi, three-way and low-flow type bodies. Either bolted or screwed stuffing boxes are offered. Also available is line of solid V-ported double-seated plugs, plus additional spring range of 6 to 30 psi. Made by **Minneapolis-Honeywell Regulator Co.,** Industrial Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

For more details circle NED-513 D4 on enclosed inquiry slip

Geared to Industry's Production Demands Since 1887

Offering the most complete line of washers available today . . . all types and sizes, all materials, all finishes. More than 25,000 sets of dies. Let us quote on your requirements.

WROUGHT WASHER MANUFACTURING CO.
The World's Largest Producer of Washers
2256 S. BAY ST., MILWAUKEE 7, WIS.



A 7511-1/9

For more details circle NED-514 D4 on enclosed inquiry slip

The BIG Tool and Job Capacity

18" CLAUSING DRILL PRESS with *power feed*

★ Drills 1" cast iron, ¾" steel ★ No. 3 Morse Taper, 6½" spindle travel ★ HEAVY-DUTY GEAR-DRIVEN POWER FEED TO TAKE FULL ADVANTAGE OF THIS BIG TOOL AND JOB CAPACITY.

An 18" heavy-duty drill press, with larger tool and job capacity, PLUS a heavy-duty GEAR-DRIVEN power feed to make effective use of its capacity. The power feed, with its large heavy-duty gears, is positive and sure — NO belt slippage to reduce power. Feed selection is instant — BY DIAL — no belts to change. Add the Clausing features of new spindle bearing engineering, vernier depth stop, and exclusive head and table positioning mechanism — and you know this is a tool that can save you plenty on both set-up and operating time. Get all the facts before you buy any drill. See your ATLAS CLAUSING Dealer!

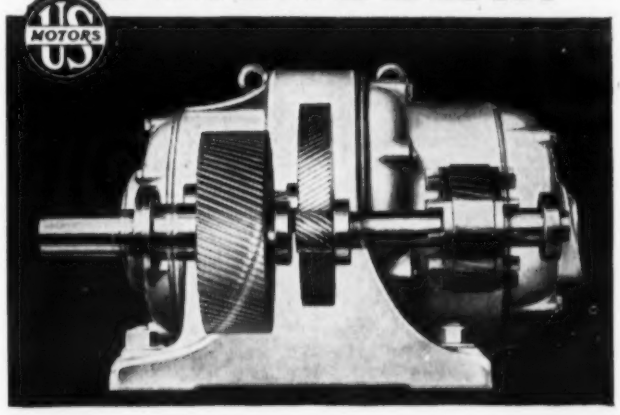
WRITE FOR LITERATURE —TODAY!

Atlas CLAUSING

CLAUSING DIVISION—ATLAS PRESS COMPANY
4-113 N. PITCHER ST. • KALAMAZOO, MICHIGAN

For more details circle NED-515 D4 on enclosed inquiry slip

Geared Power SIMPLIFIED WITH SYNCROGEAR



The motor that internally gears its speed

DON'T go to the expense of installing a gear box with extra coupling and guards to rig up slow speed for a motor. Install the *U.S. Syncrogear motor* and avoid extra contraptions. You'll simplify your power hookup, save space, eliminate hazards and give your driven machine the most efficient power. The U.S. Syncrogear motor was one of the first complete integral power units, introduced 22 years ago. It's backed by experience, tested and proved performance and engineering "know-how" that only U.S. MOTORS can offer to those seeking the most dependable geared motor power.

SYNCROGEAR ADVANTAGES

- Compact—rugged—quiet
- No external gear box
- No extra coupling
- Internally-geared
- Single unit on one base
- Completely housed
- Reduced frictional losses
- Permanently-aligned parts
- Super-hardened gears
- Pyramidal supporting base
- Solid shank pinion
- Normalized castings
- Extra large oil reservoir
- Asbestos-protected windings
- In-a-line shaft
- Neat, streamline appearance
- Drip-proof surface

U.S. SYNCROGEAR MOTOR 4 TO 10,000 RPM. 1/4 TO 30 H.P.

REQUEST FOR SYNCROGEAR MOTOR BOOKLET

U. S. ELECTRICAL MOTORS INC. NED-4
Box 2058, Los Angeles 54, Calif.
or Milford, Conn.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE ____

For more details circle NED-516 D4 on enclosed inquiry slip

Worthington Power Pump Driven by Star-Kimble Squirrel-Cage Motor

This Worthington Horizontal Duplex Power Pump at the South Bend Plant, Oliver Corporation is driven by a Star-Kimble standard squirrel-cage motor. Star-Kimble also engineers and builds motors for special industrial requirements in all fields, including machine tool, marine, and materials handling.

For full information on standard squirrel-cage motors, write for Bulletin B-201. Inquiries are invited on special designs.

STAR-KIMBLE
MOTOR DIVISION OF
Miehle Printing Press and Mfg. Co.
214 Bloomfield Avenue Bloomfield, N. J.

▲ For more details circle **NED-519 D4** on enclosed inquiry slip ▲

"BIG SAVINGS OF LABOR AND MATERIAL"

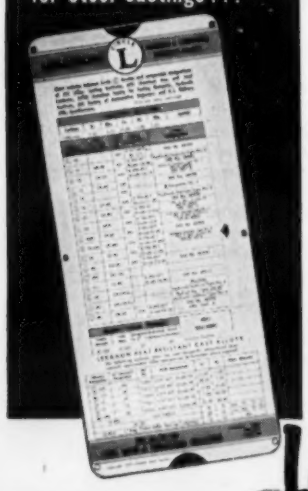
with portable Greenlee Hydraulic Conduit Bender

Quickly produce your own conduit bends *right on the job*. With a GREENLEE Bender *one man* in but a few minutes makes smooth, *accurate* bends in pipe up to 5", rigid and thin-wall conduit. Many owners report time and labor savings from 50% to 90% . . . and cost of many manufactured bends and fittings completely eliminated. Get facts now on this tool that often pays for itself on the first job.

FREE BENDER BOOKLET with complete data on GREENLEE Benders for pipe, conduit, tubing. Write today, Greenlee Tool Co., 1944 Herbert Ave., Rockford, Illinois.

▲ For more details circle **NED-520 D4** on enclosed inquiry slip ▲

Here's the "handiest tool" to help you select the right material for steel castings . . .



your Lebanon Slide Chart

THIS new Lebanon Slide Chart gives you the reference facts you need on 19 carbon and low alloys and 17 stainless and corrosion-resistant alloys in regular use at Lebanon. Simply by adjusting the guide arrow at each grade reveals . . .

- *Nominal Analyses*
- *Minimum Mechanical Properties*
- *Standard Designations i.e. ACI, AISI, ASTM, Hydraulic Institute, SAE, Military and Federal.*

Just fill in the coupon below and your valuable Lebanon Slide Chart will be on its way to you.

Lebanon
CARBON, SPECIAL ALLOY AND STAINLESS STEEL Castings

Lebanon Steel Foundry
Dept. N, Lebanon, Pa.

Please send me the new Lebanon Slide Chart
Name _____
Company Name _____
Address _____

▲ For more details circle **NED-521 D4** on enclosed inquiry slip ▲

PORTABLE ELECTRIC PLANT delivers 2000 w at 115-v dc

Provided with carrying handles and powered by a 4-hp air-cooled gasoline engine, model 2050-M portable electric plant weighs 165 lb and delivers 2000 w at 115-v dc. It operates at 2800 rpm and is fully self-contained. It has a 1-gallon capacity gasoline tank. Heavy-duty, close-coupled generator has a control panel which contains four twist lock receptacles for plug-in operation of tools, appliances or flood lighting equipment. A pilot light for operating illumination is also provided. Made by **Universal Motor Co.**, 352 Universal Dr., Oshkosh, Wis.

▲ For more details circle **NED-522 D4** on enclosed inquiry slip ▲

POTENTIOMETER power rating is 4 w at 40° C

Providing resistance from 2 to 100,000 ohms with tolerance as close as ±1 per cent, J series Helipot precision single turn continuous-rotation potentiometer is designed for servo mounting and is rated at 4 w at 40° C ambient temperature. Up to 21 extra taps can be added, each spot-welded to a turn of resistance wire without shorting out adjacent turns. As many as six sections can be ganged on one shaft. Potentiometer has 2-in. diameter, with overall length for a single section of 1 19/32-in. Additional ganged sections add 39/64-in. to the overall length. External metal clamps permit rapid phasing of any section, even after installation. Series is available with either ball or sleeve bearings. Made by **Helipot Corp.**, 916 Meridian Ave., South Pasadena 31, Calif.

▲ For more details circle **NED-523 D4** on enclosed inquiry slip ▲

DO YOU KNOW? Aluminum-base electric lamps subject to salt spray or chemical fumes are likely to stick to their sockets so that it is almost impossible to remove them without breakage. Applied to the base threads of lamps, Aquadag dispersion of colloidal graphite prevents this seizure and permits ready removal. Aquadag is made by Acheson Colloids Co., Port Huron, Mich.

▲ For more details circle **NED-524 D4** on enclosed inquiry slip ▲

NEW SHEAR-SEAL VALVE

Patent Pending

0 to 1500 P.S.I. OIL SERVICE

The simple rugged design of "Shear-Seal" valves pays off in an unbelievably *long service life free from maintenance* of any kind.

The *leakproof* closure of the self aligning, self cleaning valving members actually improves with the lapping action of each operation; *they wear-in, where others wear-out.* They are not put out of commission by dirt or erosion (wire drawing), because *flow is through, never across, sealing members.*

"Shear-Seal" valves provide excellent *throttling* action, *never freeze up, without lubrication* or constant servicing of any kind. Write for catalog 3-G.

BARKSDALE VALVES
5125 ALCOA AVE., LOS ANGELES 58, CAL.

▲ For more details circle **NED-525 D4** on enclosed inquiry slip ▲

Here's how KLIXON PROTECTORS

Safeguard Motors . . . Cut Costs by Keeping Equipment Running

Because Klixon Motor Protectors are matched and built into the motors by the motor builder, they give you a tested and proven combination that assures full motor life.

The Klixon Protector provides accurate motor overheat protection. It prevents motors from becoming dangerously hot and burning out . . . yet always permits the motor to operate at maximum capacity.

Regardless of the motor driven products that you make . . . from oil burners to machine tools . . . it will pay you to specify and insist that your motor manufacturer supplies you with motors protected with Klixon Protectors. The additional cost is low . . . pays for itself many times over by keeping equipment operating minimizing motor repairs and replacements.

Here's What a Leading Motor Repair Shop Has to Say About Klixon Protected Motors

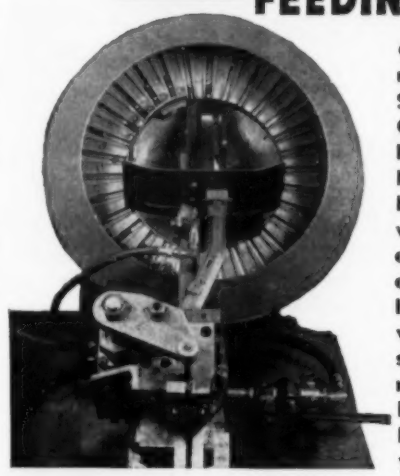
"We have seen so many cases where a seized bearing or starting switch failure to close would have caused a motor burnout but it was prevented by a Klixon motor protector. We feel Klixon Protectors are definitely a big advantage."

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
1904 FOREST STREET, ATTLEBORO, MASS.

KLIXON

▲ For more details circle **NED-526 D4** on enclosed inquiry slip ▲

Use DPS SELECTIVE FEEDING DEVICES



● Note the improvement in Lower Costs, Speedy Production, Quality Control and Increased Profits . . . Now this DPS contribution to the metal-working industry is emphasized in an expanded line of selective feeding devices and engineering service . . . Tell us your requirements; we have the unit and the know-how to meet your needs.

DPS BARREL-FEEDER

● Above is an interesting case showing separate screws and lock washers that were loaded into a single feeder and ejected loosely assembled at the rate of 60 to 70 a minute . . . An amazing speed increase over slow, manual operation. In this instance, as in thousands of other applications, the unit was designed with the idea of maximum feeding of a wide variety of parts at a fraction of the cost of manual feeding.

DPS BOWL-FEEDER

Our Newest Addition

● An electric, vibrating unit that advances the parts on a circular spiral, aligning and correctly locating them to issue directly into the work area in proper time cycle. Provides fully automatic feeding of light, fragile parts that normally could not withstand tumbling.

Let us diagnose your symptoms and prescribe the proper remedy. Write for details.

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16, MICH.

VISIT OUR BOOTH NO. 145, A.S.T.E. SHOW, PHILADELPHIA, APRIL 26 TO 30

▲ For more details circle **NED-527 D4** on enclosed inquiry slip ▲

Reduce Tool Handling Time with KELLER BALANCERS

Simplify assembly operations by holding tools in a convenient position over the working area. Bring tools quickly to the work—increase production per man-hour. Reduce tool mistreatment—eliminate damage from dropping.

The Keller Balancer has been redesigned. It has a guide bushing that increases cable life . . . lowers maintenance. It has smoother action . . . requires less effort. Adjustable tension control accurately balances tools up to 20 pounds.

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
1331 Fulton St., Grand Haven, Michigan

For more details circle NED-528 D4 on enclosed inquiry slip

CHICAGO TRAMRAIL STAK-MOR CRANE

gave 25% additional storage in the same floor space PLUS Complete Selectivity—Previous to this Stak-Mor installation, skid boxes at the plant of this nationally known manufacturer could be stacked only 4-high as shown in Row S at the left in the illustration. Boxes were placed one upon another and it was frequently necessary to remove two or three to secure the proper one.

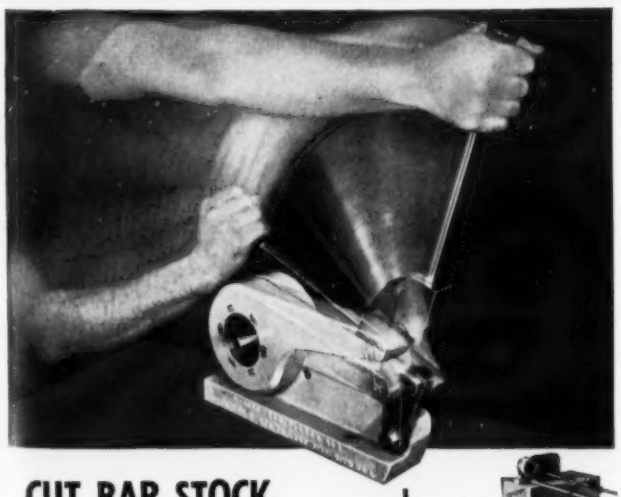
Stak-Mor permitted 5-high storage as shown in Row T at the right in the illustration, **thus giving 25% more storage in the same floor space** and, in addition, gave **complete selectivity** in placing and removing individual skid boxes.

Stak-Mor means money savings—savings in storage space—**savings** in handling—**savings** in man-power.

ASK FOR COMPLETE INFORMATION—Descriptive Catalog, Application Folder and Engineering Data.

CHICAGO TRAMRAIL CORP.
4000 Washington Blvd. Phone KEdzie 3-7475 Chicago 24, Ill.

For more details circle NED-529 D4 on enclosed inquiry slip



CUT BAR STOCK up to 5/8" Diameter

***Accurately, Instantly, Easily with* DI-ACRO* ROD PARTER**

The DI-ACRO Rod Parter with its shearing-breaking action allows most bar stock to be cut without burr and distortion. Cutting heads accommodate eleven different round stock sizes. Also special heads for cutting square, and other shaped bars.

DI-ACRO POWER ROD PARTER

Instantaneous cutting action. Motor driven flywheel, other moving parts housed in welded steel cabinet.

*pronounced Die-ack-ro

See Di-acro Exhibit
BOOTH 1403, A.S.T.E.
Philadelphia, April 26-30

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MANUFACTURING CO.
354 8th Avenue, Lake City, Minnesota

For more details circle NED-530 D4 on enclosed inquiry slip

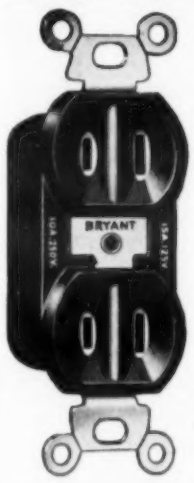
RECOVERY TOOL contains an Alnico permanent magnet

Recovery tool used to remove dropped tools, parts or spilled pieces of metal from inaccessible locations consists of a 1-in. diameter stainless steel tube which contains a powerful permanent Alnico V magnet. Tube has a non-removable mild steel plug on its attracting end to provide sinking weight while the other end is fitted with a standard 1/8-in. pipe nipple which is drilled to provide attachment for rope or wire or length of pipe. Removable neoprene rings prevent the tool from being attracted to steel pipe. Made by **Eriez Mfg. Co.**, 1325 E. Twelfth St., Erie, Pa.

For more details circle NED-531 D4 on enclosed inquiry slip

CONVENIENCE OUTLETS feature screwless terminals

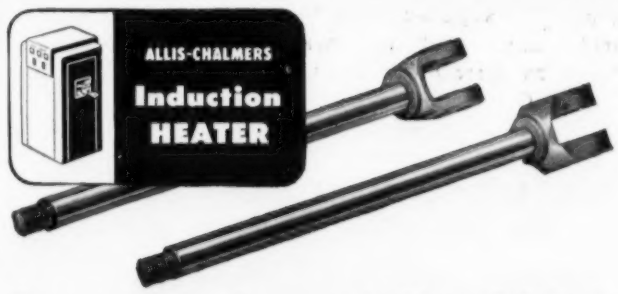
Wiring time is reduced in the installation of two convenience outlets by virtue of screwless terminal feature. It is only necessary to strip the wire to the length indicated by the gage in the base, then insert the wire in the bottom hole of the outlet and the connection is complete. Wire is released by inserting a screwdriver blade in the slot above the wire hole. Mounting screws are held in position by washers for quick installation. Made to fit all standard switch boxes, the duplex and triple outlets are available in brown and ivory plastic. Terminals which take No. 14, 12 or 10 solid wire and No. 14 or 12 stranded wire exceed the Underwriters' requirement that wire must not loosen under a 50-lb pull. Made by **Bryant Electric Co.**, Dept. NED, Box D, Barnum Station, Bridgeport 2, Conn.



For more details circle NED-532 D4 on enclosed inquiry slip

DO YOU KNOW? Heretofore available to industrial users only in bulk case quantities, "2-in-1" electrical tapes are now offered in a small corrugated pack that holds twenty-four 1/4-in. rolls, twelve 1/2-in. rolls, eight 3/4-in. rolls or six 1-in. rolls. Packs are designed to provide protection against pilferage and to simplify inventory taking. Made by Permacel Tape Corp., Dept. R, New Brunswick, N. J.

For more details circle NED-533 D4 on enclosed inquiry slip



Brazing Speed Up 800%

WHEN HIGH PRODUCTION Allis-Chalmers induction heaters replaced torch brazing methods in an aircraft plant, eight parts, like those above, were brazed in the time it formerly took for one.

In addition, percentage of rejects due to warpage was cut 80%. Reason? Heat is induced rapidly to uniform, accurately controlled depth. Center or core of metal remains relatively cool so expansion is minimized . . . warpage reduced.

VERSATILE, TOO! The two Allis-Chalmers induction heaters are used on a wide variety of jobs, including brazing piston rods on clevis assemblies, brazing caps on hydraulic ram cylinders, and case hardening bearing surfaces on hydraulic valve parts, connecting rods and others.

A simple change of work coils is all that's needed to change from one job to another.

Find out what Allis-Chalmers induction heaters can do to speed production, improve quality in your plant. Call your nearby Allis-Chalmers district office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-4172

ALLIS-CHALMERS

For more details circle NED-534 D4 on enclosed inquiry slip

ELIMINATES OIL MIST As Fire Hazard and Maintenance Problem!

Electro-Mist Electronic Oil Mist and Fume Precipitator. Capacity—700 cfm.

Fire hazards, costly maintenance, slippery floors—all are the result of oil mist "on the loose" from high-speed cutting and grinding operations. AAF's Electro-Mist electronic precipitator traps this mist, smoke and fumes right at the source—permits return of cleaned air to workroom and the collection of up to 10 gallons of oil per day for re-use.

Electro-Mist's compact design permits location close to operation, saving costly duct runs. Available in 700 cfm and 1500 cfm capacities. For complete information, write for Bulletin No. 251A.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-535 D4 on enclosed inquiry slip

Better rubber products are made with Du Pont NEOPRENE

Neoprene steam hose outlasts others 10 to 1 . . . still intact after year's exposure to grease

Premature failure of steam hose was causing costly shutdowns in the drum-cleaning operations of a grease-refining plant. Within a few weeks, the penetrating action of animal fats and vegetable oils softened hose covers . . . made it easy for steam at 25 psi to escape. Replacements were frequent, until a hose made with tube and cover of neoprene was installed.

After a full year, the neoprene steam hose was still on the job—*over ten times longer than other hoses!* During that period, the hose had often been completely immersed in grease . . . twisted and scuffed in round-the-clock service. Still the tough neoprene cover and heat-resistant neoprene tube showed no signs of deterioration. Downtime due to hose replacements was practically eliminated, and drum-cleaning efficiency increased 30% as a direct result.

Longer service life and lower maintenance costs are typical of the benefits thousands of neoprene products are bringing industry today. Although Du Pont makes no finished goods of neoprene, your supplier of rubber goods will gladly tell you about the neoprene products he sells.

FREE! THE NEOPRENE NOTEBOOK

Each issue describes new neoprene products . . . improved old products . . . tips on reducing maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Div. NE-4, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

For more details circle NED-536 D4 on enclosed inquiry slip

Start with ALUNDUM* tumbling abrasive . . . finish with the

"TOUCH OF GOLD"

Some reasons why barrel-finishing with Norton ALUNDUM tumbling abrasive is standard in leading plants:

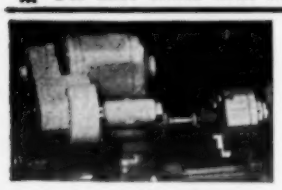
- It provides the fastest, most economical method of finishing metal parts to exact dimensions and surface finishes.
- It removes burrs, flash, tool marks and heat scale from large quantities of parts, saving endless man-hours.
- It eliminates many slow hand-finishing operations, increasing production rate of parts from tiny needles to hefty castings.

Learn how ALUNDUM tumbling abrasive can bring the value-adding, cost-cutting "Touch of Gold" to *your* finishing. See your Norton Distributor. Or write to NORTON COMPANY, Worcester 6, Mass. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas, Inc., Worcester 6, Mass. 267G

NORTON ABRASIVES
Making better products . . . to make other products better

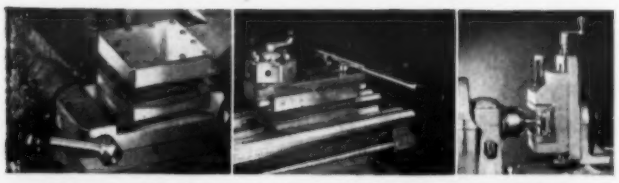
*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries

▲ For more details circle NED-537 D4 on enclosed inquiry slip ▲



Internal Grinder

SOUTH BEND
Lathe Attachments
- *Increase Lathe Versatility*
- *Simplify Difficult Jobs*



Turret Tool Block — Handlever Bed Turret — Milling Attachment

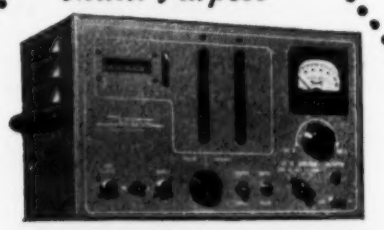
Taper Attachment — Step Chuck — Handlever Cross Slide

10-in-1 Tool Holder — Handlever Collet — External Grinder

WRITE FOR CATALOG 5102 SOUTH BEND LATHE
Building Better Tools Since 1906 • SOUTH BEND, INDIANA

▲ For more details circle NED-538 D4 on enclosed inquiry slip ▲

Multi-Purpose



LABORATORY
POLI-SCALER
Versatile
Compact
Precise
Low-Cost

The Detectron DS-606 Poli-Scaler is a complete laboratory scaler of exceptional versatility. Adaptable to GM and scintillation counting and frequency checks. Power supply may be used for either GM input or to operate accessory equipment.

PULSE HEIGHT DISCRIMINATOR INPUT — 2 to 100 V
POSITIVE or NEGATIVE PULSES — 2-100V Pos. 2-50V Neg.
RESOLUTION TIME — 5 Microseconds per pulse pair or less
HIGH VOLTAGE POWER — Variable in 1-step from 0 to 2.5 kv.
COUNTING RATE — 1,000 per sec. max.
ACCESSORY SOCKETS — for count rate meter and speaker
DIRECT READING — to 99,999,999

Write for FREE folder Dept. 79

THE Detectron CORPORATION
5420 VINELAND AVE., NO. HOLLYWOOD, CALIF.

▲ For more details circle NED-539 D4 on enclosed inquiry slip ▲

GAS REGULATOR for vent breather hole use

Normal operation with a vent breather hole which will pass less than 1 cfh in case of diaphragm failure is a design feature of the model RV-41 gas regulator. Compact unit has a nonmetallic resilient valve seat. All parts are accessible by removing only the top cover. Capacity of ½-in. pipe size is 100 cfh and of ¾-in. pipe sizes is 130 cfh. Maximum inlet pressure is 1 psi and outlet pressure is spring adjustable. Operation can be in any plane in ranges, water heaters, furnaces, wall and room heaters and industrial burner pilot controls. Made by **Maxitrol Co.**, 12200 Beech Rd., Detroit 28, Mich.

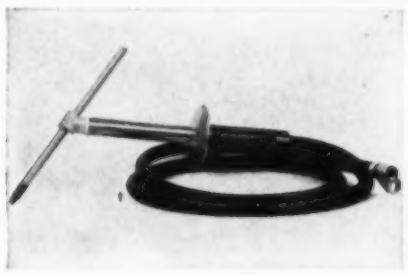
▲ For more details circle NED-540 D4 on enclosed inquiry slip ▲

ULTRASONIC TESTER measures sheet steel thickness

Portable ultrasonic instrument is designed for measuring the thickness of steel sheet where only one surface is available, for checking the continuity of bonds and for testing raw stock for laminar defects. Known as Reflectogage, is gives visual indications of steel thickness from 0.014 to 0.400-in. on a flat-face, no-paralax cathode ray tube with directly adjacent calibration tape. Tape is proportional to screen size to secure maximum reading space, and is cranked into position for any one of six available testing ranges. All manual controls are grouped according to function on the front panel. Made by **Sperry Products, Inc.**, Dept. ND 2, Danbury, Conn.

▲ For more details circle NED-541 D4 on enclosed inquiry slip ▲

CUTTING & GOUGING TORCH uses electric arc and compressed air



All metals can be cut and gouged by the Arcair model J-5 torch which uses only an electric arc and compressed air. This heavy duty unit features a one-piece insulated head that holds the electrode at a fixed angle for good contact and minimum heat. Spring loaded plunger holds the electrode in place and also acts as an air valve. Heads for ⅜ and ¼-in. electrodes are supplied. The 14-in. torch has an insulated metal hand shield and heavy duty concentric cable. Made by **Arcair Co.**, Dept. J-5, P. O. Box 337, Lancaster, O.

▲ For more details circle NED-542 D4 on enclosed inquiry slip ▲

ELECTRONIC COMPONENT TESTER for capacitors, resistors and others

Adaptable to testing capacitors, resistors, inductors and similar electronic components, testing device is automatic and arranged so that, after setup, it can be used by unskilled operators. It tests for high-voltage breakdown between leads, between leads and can, and then sorts by predetermined tolerances in up to 8 categories. Parts rejected in either of the high-voltage tests are automatically ejected into a reject bin after discharge, and eight bins are provided for the automatic tolerance sorting test phase. All high-voltage stages are fully protected by a clear dielectric Lucite guard and interlocking switch. Made by **Industrial Instruments, Inc.**, 89 Commerce Rd., Cedar Grove, N. J.

▲ For more details circle NED-543 D4 on enclosed inquiry slip ▲

Houdaille Automatic Co

AUTOMATIC • CONTINUOUS • Collects, Transports and Discharges Solid or Fibrous Materials—Metal Working Chips, Powders, Dust, Scale, etc.—Wet or Dry!

Tubular or open flights carry any materials which settle to bottom of tanks or hoppers . . . continuous or intermittent operation

Unlimited applications . . . readily adaptable to almost any space or traverse requirement . . . standard pipe sizes —3", 4", 6", 8"

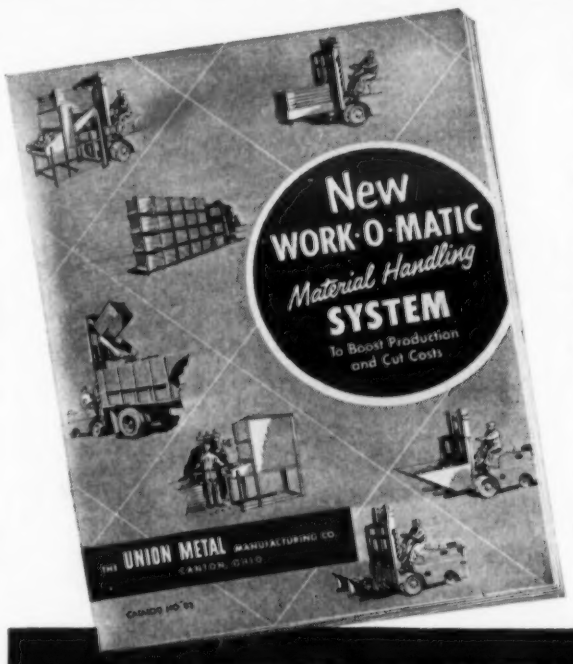
System eliminates costly manual handling methods, speeds up production, pays for itself in maintenance savings alone

Each Houdaille Conveying System individually engineered by Hones-Co to solve your particular conveying problem

Houdaille Conveyor System removes chips from broaching machines in large aircraft plant. Operating automatically and continuously, each conveyor services a single machine. Chains and flights travel nine feet below floor level, use minimum floor space.

▲ For more details circle NED-544 D4 on

Get this descriptive catalog on the co



WORK

Users report

LIKEWISE, in of loading to $6.8 Ask Manufacturing

FOR YOUR CONVENIENCE

UNION METAL
Material Handling Equipment

▲ For more details circle NED-545 D4 on

How to REDUCE BEARING REPLACEMENT

Get The ONE *Spherical Thrusts*

2 to 3½ times LONGER

That's right—this *improved* SKF (Type "C") Spherical Roller Bearing provides, size for size, 2 to 3½ times more life, 9 to 5 increased capacity . . . more than any design available anywhere . . . no increase in price.

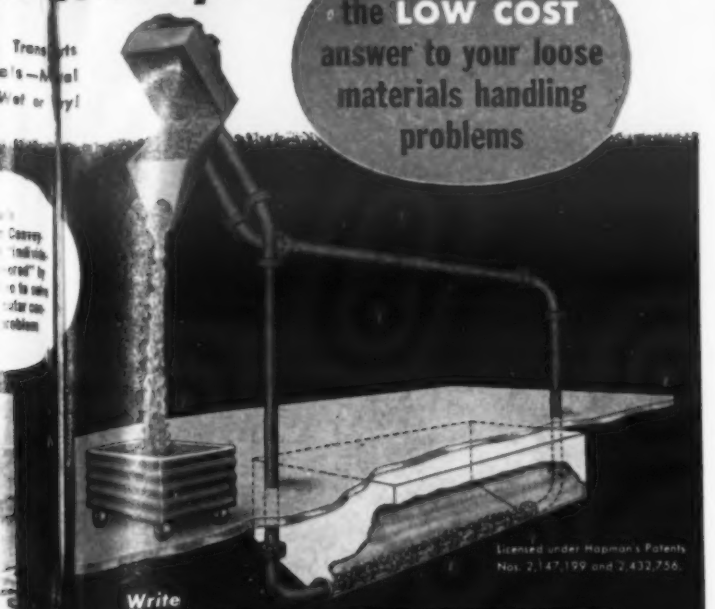
Obviously, when you tell your SKF Distributor you want the Type "C" Spherical, you're minimizing future replacement cost. And your SKF Distributor has many available sizes in stock.

Have him *show* you how the famous SKF spherical design has been improved to deliver this exceptional capacity and life. SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.—*manufacturers of* SKF *and* HESS-BRIGHT® *bearings.*

▲ For more details circle NED-546 D4

ic Conveyors...

the LOW COST answer to your loose materials handling problems



Licensed under Hapman's Patents Nos. 2,147,199 and 2,432,756.

Write on company letterhead for 30-page catalog giving complete details on engineering features, capacities, typical applications and case histories of Houdaille Automatic Conveyors.

HONAN-CRANE CORP., 415 WABASH AVENUE, LEBANON, IND.
a subsidiary of
HOUDAILLE-HERSHEY CORP.

NED-5[illegible] D4 on enclosed inquiry slip ▲

the cost-cutting, production-boosting

WORK-O-MATIC* SYSTEM

users report production increases from 22.6 to 52.8%

LIKEWISE, in a typical scrap handling operation, the cost of loading a carload of scrap was reduced from $138.55 to $6.8[illegible] *Ask for Catalog No. 83.* Write to The Union Metal Manufacturing Co., Canton 5, Ohio.

*Patent No. 2,445,038. Other patents pending.

FOR YOUR CONVENIENCE

☐ RUSH CATALOG 83

YOUR NAME _____

COMPANY NAME _____

ADDRESS _____

CITY _____ STATE _____

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REPLACEMENT COST

and Thousands

LONGER

(") Spherical Roller ... more life, ... to 50% ... available anywhere . . . at ...

for your ... want this ... replacement ... available ...

spherical ... exceptional ... PHILADELPHIA ...

SKF®

BALL AND ROLLER BEARINGS

circle NED-[illegible] D4 on enclosed inquiry slip ▲

LIGHT DUTY TRUCK handles payloads up to 500 lb

Designated model 780, this pick-up Truckster uses a drive shaft, automotive type differential, three-speed forward and one-reverse transmission, and rear-mounted style pick-up body. Advantages reported for this three-wheel light-hauling vehicle are short turning radius, roadability and low operating and maintenance cost. Body has 10 cu ft capacity for up to 500 lb loads. Power is provided by four-cycle 5-hp air-cooled gasoline engine. It will operate at speeds to 35 mph and delivers up to 50 miles per gallon of gasoline. Made by **Cushman Motor Works, Inc.,** 980 N. 21st St., Lincoln, Nebr.

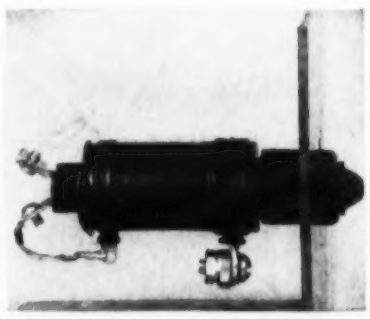
▲ For more details circle **NED-547 D4** on enclosed inquiry slip ▲

PORTABLE CUTTERS will cut rod up to ½-in. diameter

Heavy duty No. 5 portable cutters are designed to stand up under the most severe usage and will cut concrete reinforcing rods up to ½-in. diameter and wire rope and cable up to ¾-in. diameter. They are fabricated from steel with heat-treated tubular handles. Illustration shows use in construction field cutting reinforcing rods. Models are also available for cutting soft bolts, medium hard rods and other materials. Made by **H. K. Porter, Inc.,** 75 Foley St., Somerville 43, Mass.

▲ For more details circle **NED-548 D4** on enclosed inquiry slip ▲

PANEL INDICATING LAMP in six colors for ¼-in. panels



All-molded indicating lamp for switchboard steel panels features compound color caps that are treated to increase light glow, a series resistor for long life and standard 24E telephone lamp with slide base for easy changing of bulbs. Available in six colors and for panels up to ¼-in. thick, lamp is approximately ½-in. shorter than previous indicating lights. Made by **General Electric Co.,** Schenectady 5, N. Y.

▲ For more details circle **NED-549 D4** on enclosed inquiry slip ▲

PRESSURE REGULATORS in single and two-stage series

Low end point as well as good pressure regulation are afforded by two-stage 1100 series and single-stage 1200 series pressure regulators for use with most compressed gases. Forged, heat-treated, anodized aluminum alloy construction for light weight and compactness is featured. A 4000-lb pressure gage is supplied on all models except fuel gas regulators which have 500-lb gage. Other advantages include deep-cut adjusting knob, nonrising adjusting mechanism with ball bearings which is protected from dust and grit, sintered metal filter, nylon seat in HP oxygen models, spring-loaded safety relief valve and positive stop to limit delivery pressure. Regulators are UL-approved. Made by **K-G Equipment Co.,** Dept. NED, 1744 Lehigh St., Allentown, Pa.

▲ For more details circle **NED-550 D4** on enclosed inquiry slip ▲

FREE ASSEMBLY ENGINEERING SERVICE

Our experience has found the answer to knotty assembly problems for thousands of manufacturers—large and small. We can do the same for you. Just send us prints and all the parts to be assembled. In less than a week we'll send back a sample assembly properly riveted or staked, with a complete production analysis covering tooling, set up, operating procedure, costs, with a firm quotation on the HIGH SPEED equipment designed to do the job. ABSOLUTELY NO COST OR OBLIGATION.

3 BIG REASONS

for HIGH SPEED Staker Machines' outstanding performance and trade acceptance are found in its exclusive spindle design. A built-in pressure pad, (1) firmly secures the work for the blow, (2) compensates automatically for variation in thickness and, (3) insures delivering a uniform blow. This speeds up production, improves standards, and brings rejects down to minimum. Bench and pedestal models, foot and air operated. Immediate delivery. WRITE FOR LITERATURE.

Staker Machine

Backed by the Industry's Finest Tooling Service Program

HIGH SPEED HAMMER CO., INC.

Manufacturers of HIGH SPEED Wire Strippers, Cold Riveters, Staking Machines and Precision Drilling Machines.

315 S. NORTON ST., ROCHESTER 21, N. Y.

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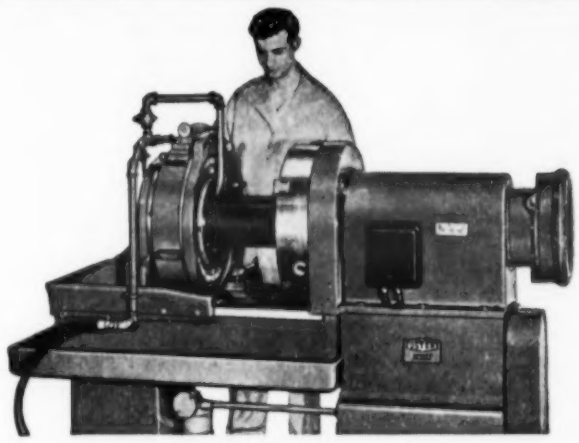

The OSTER "WILCO"

FAST...FLEXIBLE...EFFICIENT

The Oster No. 716 "Wilco" threads a wide range of pipe without die-head change. You can change sizes in seconds. A 2½" pipe, a 4" pipe, a 6" pipe, one die-head handles them all. Standard pipe range of the No. 716 "Wilco" is 1" to 6"; bolt range 1" to 4".

For the full story on the complete Oster line of threading machines see your local Oster Distributor.

THE OSTER MANUFACTURING CO.
Main Office and Factory:
2066 East 61st St. • Cleveland 3, Ohio

Builders of Cost Reducing Threading Equipment since 1893

▲ For more details circle **NED-552 D4** on enclosed inquiry slip ▲

they're SELF-LOCKING

IN ANY POSITION

on a threaded member

FLEXLOCS stay put in any position on a bolt or stud the moment the locking threads are fully engaged; they do not have to be seated. And FLEXLOCS stay tight, no matter how severe the vibration; are one piece, all metal; can be used repeatedly. One nut covers a temperature range up to 550°F. Call upon your local industrial distributor for literature and samples or write STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

▲ For more details circle **NED-553 D4** on enclosed inquiry slip ▲

EXTRA PROTECTION AT THESE TWO SPOTS

CUFFS UP
Here's control of injurious liquids — keep arms and inside of gloves dry.

CUFFS DOWN
Extra margin of safety — a two-inch longer gauntlet for really plunging in.

SURETY PATENTED TURN-CUFF INDUSTRIAL GLOVES

Surety Turn-Cuffs are available in a wide range of natural and synthetic rubber types created for specific jobs for long wearing life. As a positive protection against dermatitis and allergies created by injurious liquids you'll find a Turn-Cuff style to meet your needs as recommended by so many safety directors and insurance companies. But even just for wearing qualities you'll find Turn-Cuffs the superior glove. From your Jobber or write direct.

In Canada, Safety Supply Co., Toronto

THE SURETY RUBBER CO.
CARROLLTON, OHIO

▲ For more details circle NED-554 D4 on enclosed inquiry slip ▲

When you know the name Universal you know the pioneer of all drafting machines with a reputation for precision that goes back more than 50 years. You know the modern instrument that is adaptable to any angle board in the field. You know, too, the busy draftsman's practical choice because Universal provides a 360° full-vision protractor with automatic indexing of most used angles — positive yet easily adjusted base line clamp — a solid anchor — bands that don't slip and cause deflection.

There's magic in the name Universal if you are alert to the vital need in today's economy for new ideas, new products, new machines. And your success depends on speeding them through engineering and to your markets before your competition. Universal is helping others — can help you.

Write today for descriptive bulletins on Universal Drafting Machines and Duraline Scales.

UNIVERSAL DRAFTING MACHINE CORPORATION
7960 LORAIN AVENUE CLEVELAND 2, OHIO

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TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

- No side torque or spin
- One shot lubrication
- Completely replaceable high speed bearings
- Improved dirt seal
- Needs no starting hole

See Tri-Saw at your jobber or write us for descriptive literature

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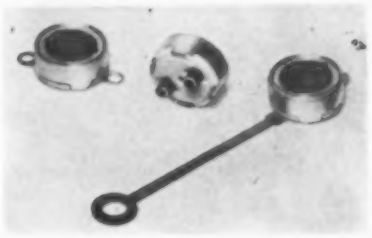
TRI-SAW CORPORATION
2207 HANLEY INDUSTRIAL COURT • ST. LOUIS 17, MISSOURI

▲ For more details circle NED-556 D4 on enclosed inquiry slip ▲

FAST-ACTION THERMOSTAT
has disk type thermal element

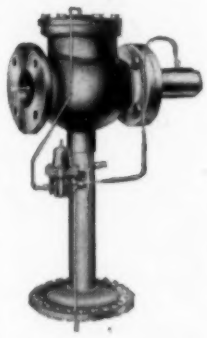


Close control of temperatures in electronic, appliance and industrial apparatus applications is possible with the Stemco type A thermostat. It is a quick make-and-break unit with a disk type bimetal thermal element in close proximity to controlled surface for fast action. Current is carried through a copper contact spring which is insulated from the element. Latter feature results in fewer contact operations and elimination of false cycling. Maximum operating temperature is 400° F and temperatures as low as −60° F do not impair normal operation. Made by **Stevens Mfg. Co.,** Dept. B, 69 S. Walnut St., Mansfield, O.

▲ For more details circle NED-557 D4 on enclosed inquiry slip ▲

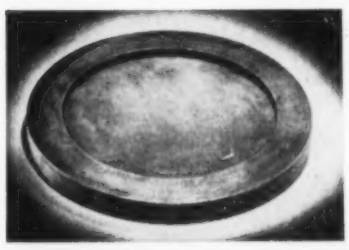
STEAM REDUCING VALVE
pressure adjustments easily made

Pilot-operated No. 933 steam reducing valve is offered in ¾ to 6-in. sizes. Downstream pressure is sensed by diaphragm of pilot valve. Pilot uses upstream pressure to open main valve if downstream pressure is too low. If it is too high, pilot bleeds off pressure, allowing main valve to close as required. Action is accomplished without appreciable variation in downstream pressure, since correction is almost instantaneous. Sizes below 2 in. have bronze bodies, while larger sizes are semisteel. Stainless steel disk and seats are used in 4-in. sizes and smaller, and larger units have bronze inner valves and seats. Made by **Klipfel Valves, Inc.,** Hamilton, O.



▲ For more details circle NED-558 D4 on enclosed inquiry slip ▲

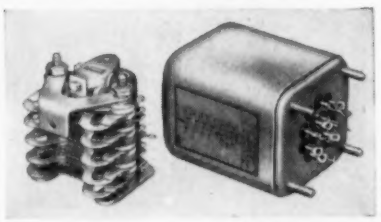
GRAPHITE RUPTURE DISK
for protecting pressurized systems



Impervious graphite rupture disk is an expendable and easily replaceable means of providing pressure relief for closed vessels and systems carrying corrosive gases and fluids. It is immune to most forms of corrosion, has zero porosity and does not contaminate substances in process. It will withstand temperatures up to 325° F. Design which utilizes entire inside diameter of the vent line for actual pressure relief membrane and characteristic nonductility of material give practically 100 per cent break out for fast relief. Impervite disks will fit any standard No. 150 flange and are intended for use between vessel nozzle and vent line. They are available for pressures from full vacuum to 75 psi and in nozzle diameters from 2 to 24 in. Made by **Falls Industries, Inc.,** 31855 Aurora Rd., Solon, O.

▲ For more details circle NED-559 D4 on enclosed inquiry slip ▲

POWER RELAYS
withstand elevated temperatures



Conditions of high temperature, high shock and high frequency vibration can be withstood by series of Hi-G power relays. Four series are available: High-G types that withstand 20G vibration at over 500 cycles per second; standard types for 10G vibration at 55 cycles; special high temperature types; and industrial types for less severe applications. All are available with two, three or four-pole double or single-throw, or six-pole single-throw contacts. Containers can have solder lugs or standard AN connectors. Contact ratings of 3, 5 or 10 amp are standard and coils are offered for almost any direct current voltage. All types can be operated at temperatures up to 325° F. Made by **Hetherington, Inc.,** Dept. NED, Sharon Hill, Pa.

▲ For more details circle NED-560 D4 on enclosed inquiry slip ▲

Precise LOWEST COST PRECISION FOR TOOL ROOM AND PRODUCTION

UP TO 45,000 R.P.M. AND ¼ H.P. ON AC/DC. Only PRECISE has the speed, power and precision needed to turn *Tungsten Carbide Mills* as well as all other rotary tools with shank diameters to ¼". Grind, mill, finish, polish any material from wood to the hardest alloy steel. MODELS SUPER 30 and SUPER 40 are for hand applications or machine set-ups; PRECISE SUPER 50 is for heavy duty in machine set-ups. Precision quills and chucks; lifetime-lubricated, micro-precision bearings; machined metal housings. Mounts and accessories for each model extend versatility on standard machine tools.

PRECISE SUPER 30 45,000 R.P.M. and ⅕ H.P. in 35 oz. Draw collet.

Write FOR CATALOG

PRECISE PRODUCTS CORP. 1346 Clark St., Racine, Wis.

▲ For more details circle NED-561 D4 on enclosed inquiry slip ▲

Ham on Rye or Rye on Hand?

Count BOTH
(and 1,001 Other Items)
with this
New Veeder-Root
VARY-TALLY
Multiple-Unit Reset Counter

Knowing how many apple versus lemon pies, for instance, are ordered on a given day . . . or how many cases of what are in the cellar . . . helps a restaurant *count*rol, make plans, make profits. The same goes for a manufacturer or wholesaler seeking tighter inventory Control . . . or for anyone with a problem in *count*rol.

Arranged compactly on stands in tiers, the Vary-Tally can be supplied in any of 66 combinations, up to 6 banks high and 12 units wide, with a minimum of 2 units wide. Write for news sheet and prices.

VEEDER - ROOT INCORPORATED
HARTFORD 2, CONNECTICUT
Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.
Montreal 2, Canada • Dundee, Scotland
Offices and Agents in Principal Cities

"The Name that Counts"

▲ For more details circle NED-562 D4 on enclosed inquiry slip ▲

HOW TO USE DRY TYPE TRANSFORMERS PROFITABLY IN YOUR PLANT

Planning the electrical system of your plant with Acme Electric dry type transformers can save you money, material and time. How to eliminate double wiring, provide 3-wire secondary circuits, insulate circuits or balance voltage are only a few of the many ways you can use Acme Electric dry type transformers. Write for the folder DT 195 containing ideas and wiring diagrams. Acme Electric transformers are available in single phase sizes from 1/10 thru 500 KVA; three phase from 3 thru 750 KVA.

ACME ELECTRIC CORPORATION
MAIN PLANT: 304 WATER STREET • CUBA, N. Y.
West Coast Engineering Laboratories: 1375 W. Jefferson Blvd., Los Angeles, Cal.
In Canada: Acme Electric Corp. Ltd. • 50 North Line Rd. • Toronto, Ont.

Acme ACME Electric TRANSFORMERS

For more details circle NED-563 D4 on enclosed inquiry slip

Lightweight HELIARC TORCH is water-cooled...

FOR EFFICIENT INERT GAS WELDING AT LOW COST

You can make high quality welds every time with this lightweight, 300 amp. HELIARC HW-10 torch. Both the torch body and power cable have all-internal water-cooling for cooler operation even when welding continuously at full capacity. Yet cleaning is easy for all water passages are straight. Electrode adjustment is quick and simple, too. No wrenches needed. And electrode stub loss is minimized by an improved water-cooling system. Call your nearest LINDE representative today for more details on the HELIARC HW-10 torch.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

The terms "Heliarc" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

For more details circle NED-564 D4 on enclosed inquiry slip

Precision Paper Products

CAN WE SERVE YOU?

PAPER AND SPOOL SHAPES

We are equipped to make a wide variety of paper shapes for industrial users, including cones, tubes, cores, spools and moulded shapes. These products are available in various colors and many different surfaces. They can be impregnated, printed, perforated, scored, lacquered, flocked or in any combination of these processes.

Our laboratory and engineering departments are available for consultation and experimental development. If it can be made out of paper, as a low cost substitute for metal, plastic or wood, we can make it and save you money.

sonoco PAPER CARRIERS

SONOCO PRODUCTS COMPANY
MAIN OFFICE—HARTSVILLE, S. C.
MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC
DEPENDABLE SOURCE OF SUPPLY

For more details circle NED-565 D4 on enclosed inquiry slip

TOOLING COMPONENTS
new items added to line

Fabricated from hardened alloy steel, these fixture keys, spring plungers, spring stops, torque screws, toggle pads and swivel screws are among items added to line of jig and fixture components. Engineering data sheets showing sizes and styles are available, together with full scale tracing template sheets. Made by **Siewek Tool Co.**, 2863-A E. Grand Blvd., Detroit 2, Mich.

For more details circle NED-566 D4 on enclosed inquiry slip

STATIONARY TABLE-LIFT
for sheet feeding at various levels

Sheets or molds can be fed at various levels by an operator who rides with the deck of the Electraulic stationary Liftable. It has a 1200-lb capacity and the 36 x 48-in. platform is fitted with two 18-in. long rollers on one of the 48-in. sides. Lowered height is 40 in. and raised height is 70 in. from floor. Unit is wired for 550-v, three-phase, 60-cycle power, with a 110-v control circuit of "deadman" raise and lower type mounted near the operator's hand. Explosion-proof equipment and automatic increment control are available. Made by **Service Caster & Truck Corp.**, 578 N. Brownswood Ave., Albion, Mich.

For more details circle NED-567 D4 on enclosed inquiry slip

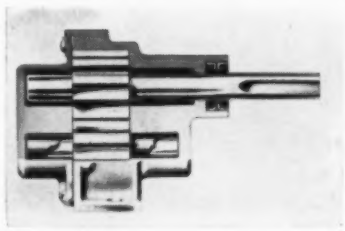
GRINDING WHEEL DRESSERS
feature quick-change cutter

Heavy hardened steel side washers pressed into the handle casting of Desmond-Huntington grinding wheel dresser protect the handle from wear by the revolving cutters. Line of tools also incorporates hex head screws fitted with nonremovable lock washers which lock the side washers in place and retain the cutter pin. Dressers are made in sizes No. 1, 2, 21 and 22 to hold cutters of those sizes.

Hole in end of handle provides for fastening dresser to grinder. Made by **Desmond-Stephan Mfg. Co.**, 318 S. Walnut St., Urbana, O.

For more details circle NED-568 D4 on enclosed inquiry slip

GEAR-TYPE PUMP
for light or heavy liquids



Gear-type pump operates at pressures up to 100 psi and will handle light liquids at speeds up to 1725 rpm and heavier liquids such as molasses or chocolate syrup and oils at slower speeds. It functions equally well in either direction of rotation. Pump has nonadjustable mechanical seals, carbon bearings, bronze alloy gears and case and microfinished stainless steel shaft. It is available as a complete unit with pump, base, coupling and motor, as a complete unit less motor or as a pump only. Made by **Eclipse Fuel Engineering Co.**, 1002 Buchanan St., Rockford, Ill.

For more details circle NED-569 D4 on enclosed inquiry slip

SAVE HOURS in finishing time with LIQUAMATTE wet blasting

Tools, dies, molds, engine parts, etc. requiring 1 to 6 hours to finish by hand methods are now finished in from 30 seconds to 10 minutes in a Liquamatte Wet Blasting Machine. It produces close tolerance finishes mechanically at high speeds that previously have been impossible to achieve except by hand methods. For example, at the Oling Tool Company, a Liquamatte is saving an average of 50% on former time and labor requirements for surfacing tools prior to plating. On some items, such as drill bits, savings as high as 80% have been effected. Send for Bulletin 43 for the complete story.

American WHEELABRATOR & EQUIPMENT CORP. | 508 S. Byrkit St., Mishawaka, Indiana

For more details circle NED-570 D4 on enclosed inquiry slip

It's automatic!

SEALS CARTONS FASTER

...reduces packer fatigue

New NATIONAL "88" ELECTRIC TAY-PER®

- Foot operated — both hands free for carton handling.
- Tape-Mizer permits unlimited selection of tape lengths from 6" to 70".
- Cuts accurate lengths. No wasted tape!
- Thorough and uniform all-over moistening of gummed surface.
- Pays for itself quickly in tape, time and labor saved.

itstix® PRINTED TAPE

Designed for use with the National "88" Electric Tay-Per. Welds itself to the carton, preventing product damage. Itstix Printed Tape seals against pilferage since packages cannot be retaped without detection. Gives your product positive identification as well as effective advertising.

FREE 10-day Trial OFFER

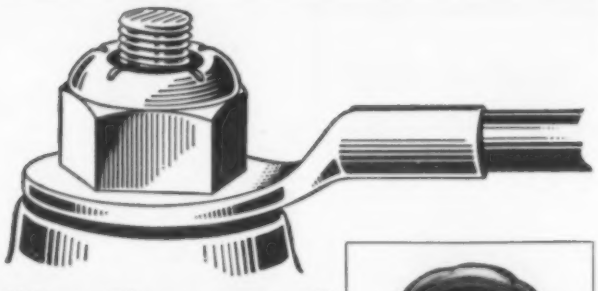
Try this modern package sealing machine in your shipping room for 10 days without cost or obligation. See how much time, labor, and money you save when your tape dispenser and gummed sealing tape are designed to *work together*.

NASHUA PACKAGE SEALING
DIVISION OF NASHUA CORPORATION
86 Franklin Street, Nashua, N. H.

Without obligation, please have a representative call and install a National "88" Electric Tay-Per for a FREE 10-day trial.

Name _____ Title _____
Firm _____
Street _____
City & State _____

For more details circle NED-571 D4 on enclosed inquiry slip



Vibration-proof electric terminals

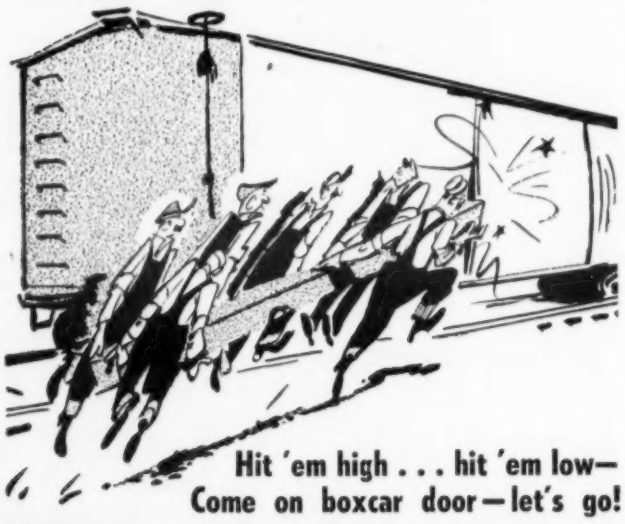
Self-locking brass Elastic Stop® nuts provide positive protection against the loosening effects of vibration. The red elastic locking collar provides a constant grip on terminal studs . . . prevents ignition or power supply failures. Because Elastic Stop nuts remain tight in any position on the stud—whether firmly seated or not—they are easily adjusted. One-piece fasteners, readily removed and re-used.

Write ESNA® for the most practical answer to your fastener problem. Address Dept. N57-437.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

▲ For more details circle **NED-572 D4** on enclosed inquiry slip ▲



Hit 'em high . . . hit 'em low—Come on boxcar door—let's go!

Why use 14th Century methods to open balky, hard-to-roll boxcar doors? Why endanger lives and limbs? Why waste labor, time and money? THE NOLAN ONE-MAN CAR DOOR OPENER OPENS ANY BOXCAR DOOR IN 20 SECONDS OR LESS! A few quick pulls on the anchor chain by one man and the door rolls open. The NOLAN saves its low initial cost in the first hour of operation.

NOLAN ONE-MAN CAR DOOR OPENER **$37.50** F.O.B. Bowerston

Order one or more now!

Free Literature

THE NOLAN COMPANY 128 Pennsylvania St., Bowerston, Ohio

▲ For more details circle **NED-573 D4** on enclosed inquiry slip ▲

IN ONE MINUTE'S TIME

AWS Class E-6012 electrode produced this fillet.

THIS MUCH MORE WELD

was made in the same time in the same steel plate

with the new AIRCO® **EASYARC 12** *electrode*

Actual length of welds: E-6012—5 1/16", Easyarc 12—12". **Current settings:** 230 amps AC for E-6012, 275 amps AC for Easyarc 12. Both welds made in 1/4" mild steel plate with 3/16" diameter electrodes.

Write for "Pocket Guide to Airco Electrodes."

AIR REDUCTION
60 E. 42nd Street
New York 17, N. Y.

Divisions of Air Reduction Co., Inc.
Air Reduction Sales Co.
Air Reduction Magnolia Co.
Air Reduction Pacific Co.
Represented internationally by Airco Company International

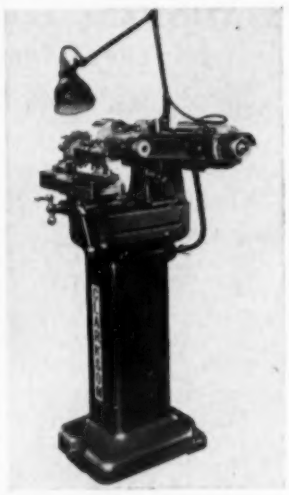
▲ For more details circle **NED-574 D4** on enclosed inquiry slip ▲

AIR-COOLED ENGINE available with hand clutch

Recently announced K160 air-cooled engine is now available with hand clutch and is designated as model K160C. Unit is single cylinder, four-cycle type equipped with oil bath air cleaner, ball bearings, oil bathed fly-ball governor, fuel filter and silencer muffler. It has 1¼-gal fuel tank. Engine provides 6.6 hp at 3600 rpm; 6.3 at 3000 rpm; 5.1 at 2400; and 3.7 at 1800 rpm. Made by **Kohler Co.,** Dept. 2, Kohler, Wis.

▲ For more details circle **NED-575 D4** on enclosed inquiry slip ▲

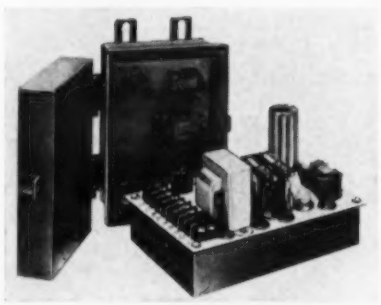
MILLING CUTTER GRINDER handles wide variety of cutters



Milling cutter grinder provides for setting and sharpening of cutters in from 15 to 25 minutes according to type and handles a variety of cutters including end mills, slot drills, reamers, Woodruff cutters, tee slot cutters, side and face, cylindrical and angle cutters and face and hollow mills. It has a ½-hp motor and is operated from the front, being equipped with an adjustable lamp which gives concentrated illumination. Equipment can be supplied to permit all straight and Morse shank cutters to be sharpened, and all side and face cutters up to 6-in. diameter with 1 and 1¼-in. diameter holes. Made by **Clarkson, Inc.,** Sales Dept., 320 Ontario St., Toledo, O.

▲ For more details circle **NED-576 D4** on enclosed inquiry slip ▲

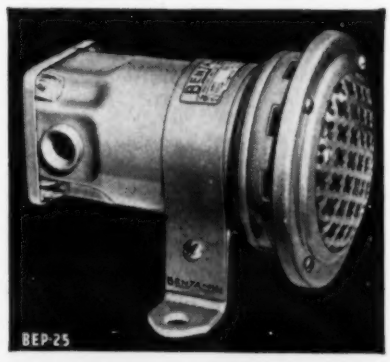
ABNORMAL FLOW ALARM indicates high or low flows



Designed to sound an alarm as a result of high or low flow conditions in such process control instruments as Rotameters and manometers, Flo-Gard will detect 1 millimeter of float position change and operates accurately in conjunction with spherical floats as small as 3/32-in. Fail-safe features insure that in the event of component or power failure the load relay will drop out and operate the alarm contacts. Two sensing coils can be connected in series to the same alarm unit and either installed on a single Rotameter to provide both high and low flow alarms or installed on separate Rotameters. Made by **Brooks Rotameter Co.,** Dept. OP, P. O. Box 432, Lansdale, Pa.

▲ For more details circle **NED-577 D4** on enclosed inquiry slip ▲

SIREN for indoor or outdoor installations

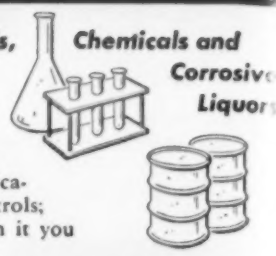


Although designed for fire and air raid signalling, the Benjamin siren can also be installed in elevator shafts, factory production areas and other indoor and outdoor locations. It is intended for multiple installations and is powered by a high torque series wound General Electric motor rated at 1/5-hp at 10,000 rpm. Unit is designed for ½-in. conduit and, by loosening two steel bands, it can be rotated for alignment of the conduit. Motor housing is finished with a coat of zinc plate, Iridite dip and gray hammered paint enamel for corrosion resistance. Made by **Benjamin Electric Mfg. Co.,** Dept. W, Seegers Rd. & Northwest Highway, Des Plaines, Ill.

▲ For more details circle **NED-578 D4** on enclosed inquiry slip ▲

ALL STAINLESS STEEL METER
MEASURES CORROSIVE LIQUIDS

Measures Foods, Pharmaceuticals, Chemicals and Corrosive Liquors



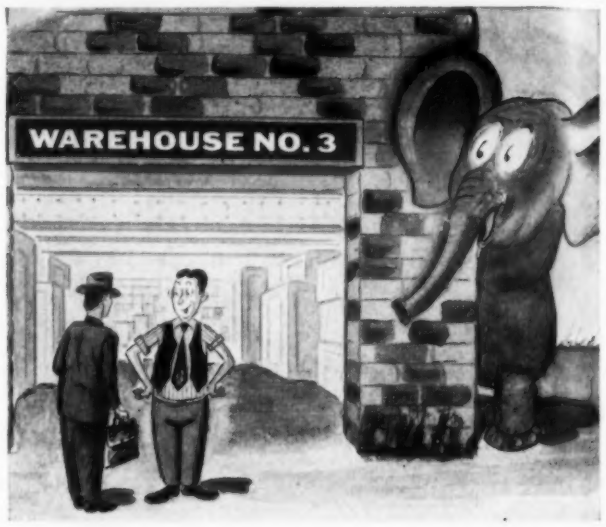
Constructed *inside and out* of stainless steel, this meter resists corrosive attack and is easy to clean. With it you can get positive metered identification for inventory and cost controls; for tax analysis purposes. With it you can also get accurate quantity control over liquids entering into batch mixed formulas. Rated capacity 100 gpm. Automatic shut-off registers and remote registration systems can be furnished. Write for bulletin OG-403 *Rockwell Manufacturing Co., Dept. 5404D Pittsburgh 8, Pa.*

YOU CAN RELY ON ROCKWELL

Rotocycle meter, cut away to show the all-revolving rotor construction.

ROCKWELL INDUSTRIAL METERS

▲ For more details circle **NED-579 D4** on enclosed inquiry slip ▲



"MATERIAL HANDLING!...OH WE HAVE A VERY EFFICIENT SYSTEM"...

We hope our cartoon has managed a chuckle or two . . . however, there is also a serious side to this message.

Management across the country will be taking a long, long look at operating costs in 1954. A major factor in operating costs is Materials Handling. An inefficient, poorly planned system can "bite" deep into 1954 profits. If you are considering modernization or replacement of equipment . . . investigate the MOTO-TRUC line . . . They are the leaders of the industry . . . and like the Elephant . . . remember . . . THERE'S A MOTO-TRUC FOR EVERY PURPOSE.

Send for Bulletin No. 53

Representatives in Principal Cities

The MOTO-TRUC Co.

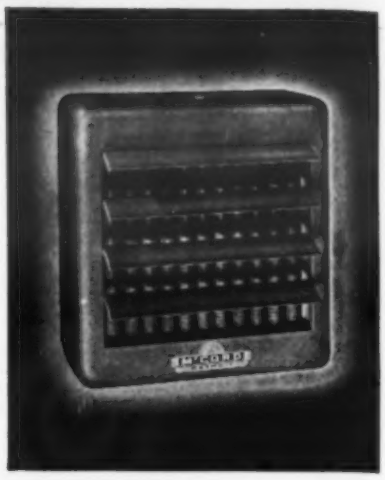
1961 E. 59th STREET • CLEVELAND 3, OHIO

PALLET . . . PLATFORM . . . HI-LIFT TRUCKS

LARGEST EXCLUSIVE MANUFACTURERS OF "WALKIES"

▲ For more details circle **NED-580 D4** on enclosed inquiry slip ▲

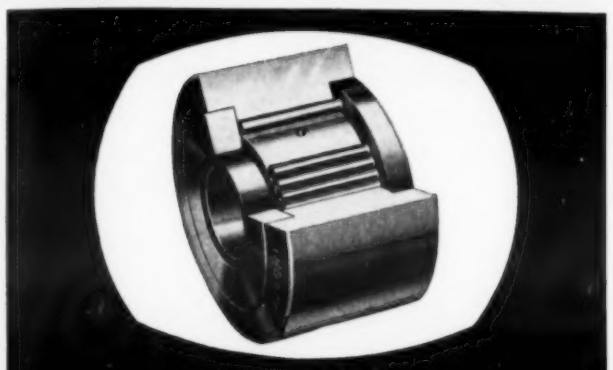
IMPROVED MODEL McCORD UNIT HEATER



The improved McCord Unit Heater incorporates every unit heater advancement that McCord engineers and the experience of thousands of users could suggest. The distinctive modern design with rounded corners combines improved appearance with greater strength and houses a heating unit that sets a new standard of heat transfer efficiency and quietness. The scientific design of the individual turbo spiral fin tube core provides even distribution of heated air at high velocity. The individual tubes prevent stresses due to unequal expansion. The entire heating unit is spring suspended and floats free in the casing eliminating rigid connections. Deep pitched fans provide high air delivery and quietness of operation.

This improved heater is a development of the experience gained from the thousands of McCord Unit Heaters in service. It combines good appearance with that inherent McCord quality of ruggedness and dependability that has made McCord the standard among many of the largest industrial users. You may also replace old leaking heaters using new McCord units and your old fan and motor. Write for new catalogs—Unit heaters and blast coil units. **McCord Corporation,** 2580 E. Grand Blvd., Detroit, Mich. —**Advt.**

▲ For more details circle **NED-581 D4** on enclosed inquiry slip ▲



versatility
for cam follower mounting provided with
MULTIROL® CYR bearings

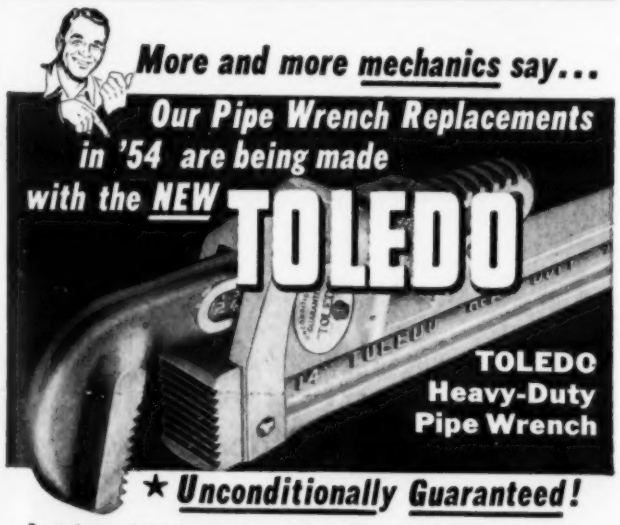
With this series it is possible to utilize the full advantages of Multirol Cam Follower bearings in a yoke mounting. In the CYR bearing an inner race replaces the stud to further increase the adaptability of precision cam followers in automatic machinery requiring cam action or guide and support rollers.

Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

▲ For more details circle **NED-582 D4** on enclosed inquiry slip ▲



★ **Unconditionally Guaranteed!**

Just introduced—and making friends fast! See 'em—try 'em on your next job!

New Toledo Wrenches speed the work with easy handling . . . instant non-slip grip on pipe . . . replaceable jaws with spin-easy nut and single spring for quicker, easier setting . . . improved handle design for increased strength, better hand-grip. 6" to 48" sizes.

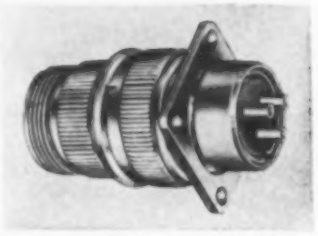
Unconditionally Guaranteed! If wrench housing or hook ever breaks or distorts, we will replace it Free. Write for new catalog. Order through your supply house. The Toledo Pipe Threading Machine Co., Toledo, Ohio. New York Office: 165 Broadway, Room 1310.

Rely on the Leader . . . all the way! **TOLEDO**

PIPE TOOLS • POWER PIPE MACHINES • POWER DRIVES

▲ For more details circle **NED-583 D4** on enclosed inquiry slip ▲

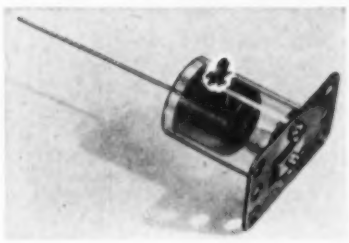
ELECTRICAL CONNECTOR withstands high temperatures



Vital electrical circuits can be carried through aircraft fire walls and other high ambient areas by this high temperature electrical connector. It provides a positive fire barrier for at least 20 minutes and uninterrupted power for at least 5 minutes when vibrated during exposure to a direct 2000° F flame. Mycalex inserts cushioned by silicone wafers and housed in stainless steel shells make this performance possible. Made by **Bendix Aviation Corp.,** Scintilla Div., P. O. Box 188, Sidney, N. Y.

▲ For more details circle **NED-584 D4** on enclosed inquiry slip ▲

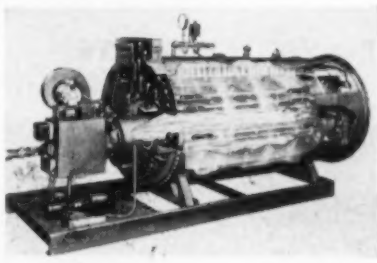
AIR-DAMP DASHPOT for use as a system stabilizer



Weighing less than ½-oz, this precision air-damp dashpot for use as a system stabilizer in control mechanisms and switchgear provides mechanical damping and shock absorption. Dashpot is made of low expansion glass cylinders and graphitized-carbon pistons, ground and fitted to tolerances closer than 0.002-in. It is furnished with a metal plate for easy mounting and will operate in any position at temperatures from −75 to 150° C. Damping constant is adjustable up to 0.06-lb-seconds per inch and maximum tension force is 4 lb at sea level. Compression force is limited only by strength of the materials used. Maximum stroke is ½-in., with other sizes available to order. Made by **Electric Regulator Corp.,** Dept. N, Norwalk, Conn.

▲ For more details circle **NED-585 D4** on enclosed inquiry slip ▲

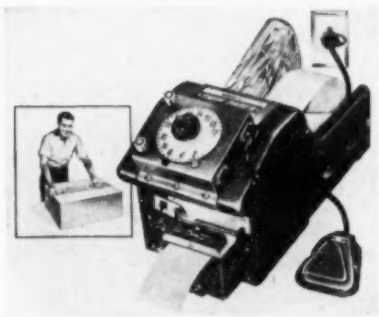
SELF-CONTAINED BOILER Scotch-marine type rated at 125 hp



Maximum rating of the Steamboiler-plant self-contained fully automatic Scotch-marine boiler is 125 hp, without pushing or strain. It is available with automatic controls for all operating requirements. All requirements of ASME code and "code of ethics" of Industrial Gas Equipment Division of GAMA are equaled or exceeded. Packaged unit has boiler shell with extra-large furnace, flue gas collector, electronic flame-failure protection and low water fuel cut-off with water level control switch. Boiler is ready for operation after connection to electricity, steam, water and fuel lines and stack. It is available for burning gas, gas or light oil, gas or heavy oil, oil only and heavy oil only (requiring preheat). Made by **Eclipse Fuel Engineering Co.,** 1002 Buchanan St., Rockford, Ill.

▲ For more details circle **NED-586 D4** on enclosed inquiry slip ▲

ELECTRIC TAPE DISPENSER delivers any two preset lengths



By pushing one of its two operating buttons, the Twin-Taper electric tape dispensing machine will deliver one of two preset lengths of gummed tape which is moistened with warm water. Two selector arms permit setting of any two lengths between 3 and 72 in. Plugs on the machine connect it with one or two foot controls or remote controls, used in place of or with the operating buttons. Machine will accommodate 1 to 3-in. width tape and is equipped with a stainless steel knife that will cut paper, cloth or filament-inserted tape. Water heater and thermostat are built in. Made by **Marsh Stencil Machine Co.,** 23 Marsh Bldg., Belleville, Ill.

▲ For more details circle **NED-587 D4** on enclosed inquiry slip ▲

NEW FINISHING BULLETIN

EVERY PRODUCTION MAN WILL WANT A COPY

Here is a bulletin that shows you how to cut finishing costs and increase profits. It shows how PELRON services and products make it possible for manufacturers to perform cleaning, phosphating, paint stripping and spray booth operations faster, more economically and with a better end-product as a result. Send for your *free copy* today!

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Industrial Oils and Chemicals of Better Production at Lower Cost.

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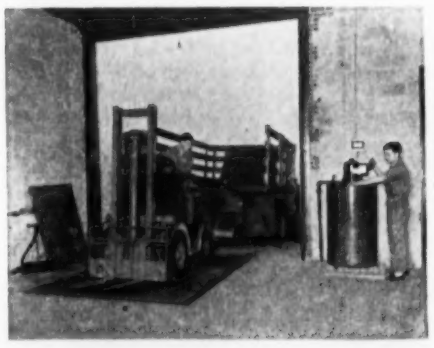
GLOBE OiLIFT® solves the problem of loading fork trucks onto delivery trucks

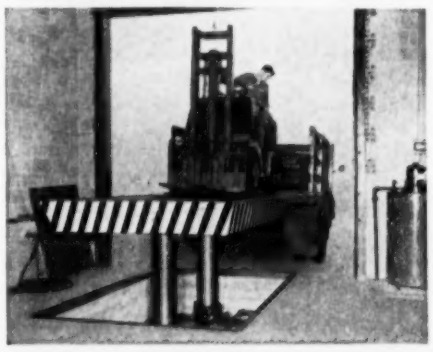
A fork truck weighing anywhere from 3,000 to 17,000 pounds makes an unwieldy "package" to load onto a delivery truck. A factory service branch licked this tough problem in materials handling by installing a Globe Hydraulic Lift with a capacity of 20,000 pounds in its driveway.

Now, fork trucks are transferred between driveway and delivery truck in a matter of minutes. Two hydraulic cylinders power the checkered-steel surfaced platform which measures 6'4" x 10'. The usefulness of this Globe Loading Lift is not limited to handling fork trucks—it is used for loading and unloading all kinds of freight to speed materials handling and cut costs.

This installation is just one example of the many problems of lifting, loading, positioning, and materials handling solved by Globe OiLIFTS. Use the coupon to get additional data.



Globe Loading Lift recesses flush with floor. Fork lift trucks are driven right onto the checkered-steel surfaced platform.



Two hydraulic cylinders raise the Globe OiLIFT flush with truck bed. Fork trucks are transferred quickly and safely.

Globe Hydraulic Lifts available with either one or two cylinders. Capacities to 40,000 pounds. Standard lift height of 58" can be varied to suit special needs. Electric-motor pump or compressed air line. Push button or lever control at upper or lower level, or on platform itself.

GLOBE THE BEST LIFT

Globe Hoist Company NED-619-A
East Mermaid Lane at Queen Street
Philadelphia 18, Pa.
Please send me additional information on Globe OiLIFT.

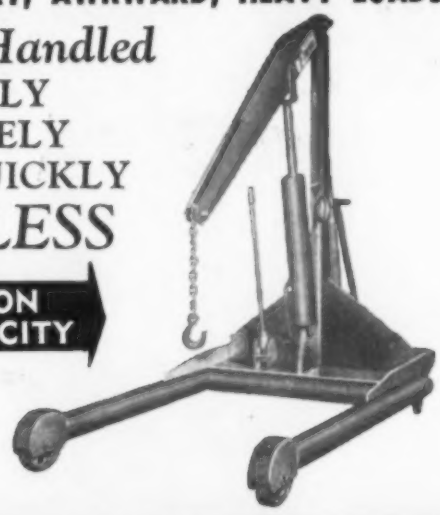
Name.....
Company.....
Address.....
City and Zone.....State.....

▲ For more details circle **NED-589 D4** on enclosed inquiry slip ▲

BULKY, AWKWARD, HEAVY LOADS

Handled
· EASILY
· SAFELY
· QUICKLY
for LESS

2 TON CAPACITY



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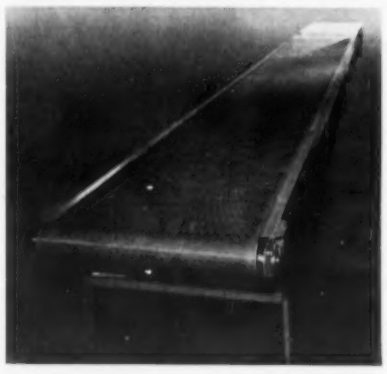
AIR OPERATED VISE
force is 15 times line pressure

Designed to grip with a maximum force of 15 times the air line pressure, model 33 air-operated vise has a 3-in. wide jaw infinitely adjustable to a maximum opening of 3⅛-in., with maximum travel of ⅜-in. Maximum line pressure is 150 psi, and an air regulator available as an accessory permits grips ranging from the lightest touch to capacity. Unit has foot pedal control and is set by a ratchet-operated adjusting screw on the movable jaw. Design permits drilling straight through without interference, sliding jaw being mounted on two hardened and ground parallel bars. Straight and recessed jaws are available. Made by **Heinrich Tools, Inc.,** Dept. 272, Racine, Wis.

▲ For more details circle NED-592 D4 on enclosed inquiry slip ▲

WIRE MESH CONVEYORS
made in various widths and lengths



Series of power driven wire mesh belt conveyors, made in a wide variety of widths and lengths, is available for such continuous processing operations as washing, spraying, cooling, baking, drying, annealing and ceramic firing. Units can be operated at constant or variable speeds. Capacities to handle light and heavy products are available in both stationary and portable types. Made by **Sage Equipment Co.,** 28 Essex St., Buffalo 13, N. Y.

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POWER RESISTORS
5, 10 and 15-w units available

Available in resistance ranges from 1 ohm to 10K ohms, Greenohm Jr power resistors are rated at 5, 10 and 15 w. The 15-w unit, known as series C8JJ, is 2-in. long by ½-in. diameter, compared with the 10-w unit measuring 1¾ x 5/16 in. and the 5-w unit measuring 1 x 5/16 in. Resistors have sealed ceramic cases containing wire-wound resistance elements, with axial pigtail leads providing support and connections in point-to-point wiring. Made by **Clarostat Mfg. Co.,** Washington St., Dover, N. H.

▲ For more details circle NED-594 D4 on enclosed inquiry slip ▲

BULK HANDLING UNIT
lifts 1500 lb 7-ft high

Designed for use in factories, foundries, mills and general maintenance and contract applications, model 20 Shoveloader has a 12-cu ft bucket and will lift 1500 lb to a 7-ft height. It has a 90-in. turning radius and is suitable for working from boxcars, bins and stockpiles. Provided with four forward and one reverse speed, it is gasoline powered and has a maximum speed of 14 mph. Catalytic exhaust equipment that neutralizes exhaust fumes is available for inside work. Spark arresting muffler and Protectoseal fuel tank are standard equipment. Lift forks, crane hooks and special buckets are among available attachments. Made by **Baker-Lull Corp.,** 376 W. 90th St., Minneapolis 11, Minn.

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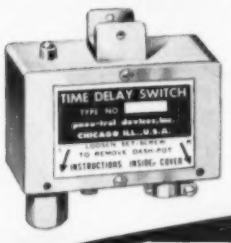
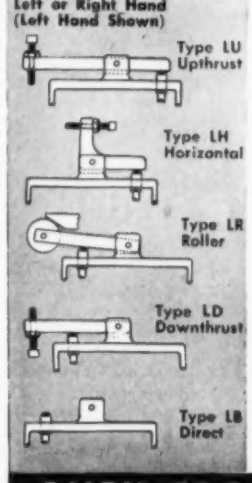
NEW CYLINDER TIME DELAY CONTROL SWITCH

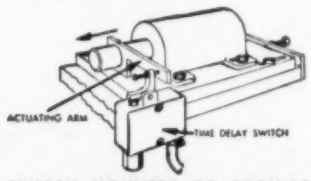
INCREASES APPLICATION . . . WIDENS USE OF CYLINDER POWER



For Any Type Actuation Left or Right Hand (Left Hand Shown)



Pneu-Trol Time Delay Switches provide independent hydraulically controlled adjustable time dwell between ¼ and 60 seconds in 20 to 1 ratios. Readily mounted on machine for cylinder dwell at a positive stop. Compactly designed—a simplified low cost answer to electrical time dwell control of any air or hydraulically operated machine movement such as press work, burnishing, coating, quenching, metal-cutting, etc. Ideal for automatic feeders. Dimensions: 4⅛" wide; 2⅝" high; 1-7/16" deep. Overall height 4⅛".



SWITCH MOUNTED TO PROVIDE DWELL AT END OF POWER STROKE

Write for descriptive literature and complete details.

PNEU-TROL DEVICES, INC.
1432 N. Keating Ave. Chicago 51, Illinois

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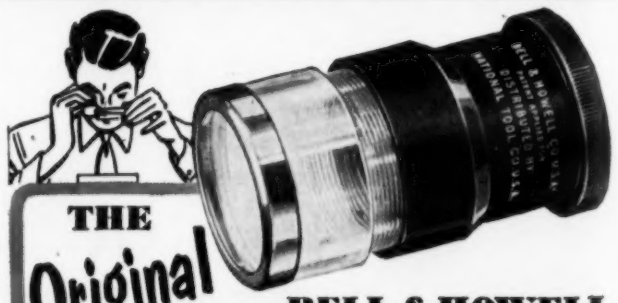
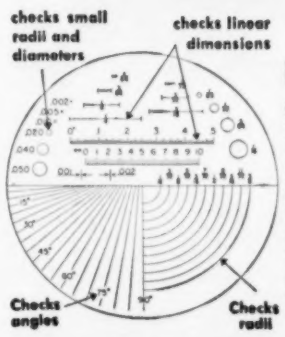


THE Original BELL & HOWELL Pocket Comparator



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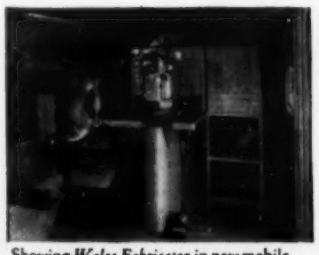
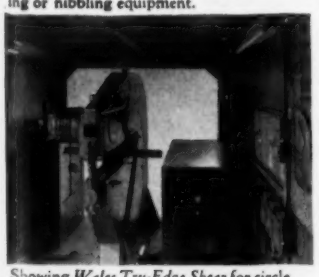
Put the WALES Fabricator through its paces at your plant!



Showing *Wales Fabricator* in new mobile unit for demonstration at your plant. See it operate at your plant before you buy any other type of hole punching, notching or nibbling equipment.

■ Above new Wales-Strippit mobile unit (1 of 3) brings the Wales Fabricator right to your plant. You and other plant executives can use this unique Wales Fabricator to produce your own parts. Your time study men can evaluate its astounding money-saving, cost-saving efficiencies.

The Wales Fabricator is the only machine of its kind and is designed for rapid interchangeability for punching, notching and nibbling. Work from blueprints or operation sheets...no *templates required.* Can you match the Wales Fabricator time studies below?



Showing *Wales Tru-Edge Shear* for circle and shaped cutting, beading and forming in the new mobile unit. Material is sheared, not punched.

SEE FOR YOURSELF. Operate it. Put it through its paces. Write today for Wales Catalog 10-AA and an appointment for a demonstration at your plant.

An electronic chassis, 12½"x 11½" with 118 holes and 4 notches was completed including setup in only 32.45 minutes and subsequent pieces in only..... **6.44 MIN.**

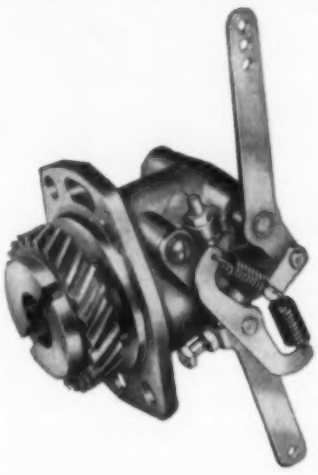
A part of a piece of farm equipment 72½"x 22" with 32 holes and nibbled cut-out was finished including setup in only 12.01 minutes, subsequent pieces in only...**2.32 MIN.**

WALES-STRIPPIT CORPORATION
George F. Wales, Chairman
363 Payne Avenue, North Tonawanda, N. Y.
(Between Buffalo and Niagara Falls)
Wales-Strippit of Canada Ltd., Hamilton, Ontario
Specialists in Punching and Notching Equipment

For more details circle **NED-600 D4** on enclosed inquiry slip

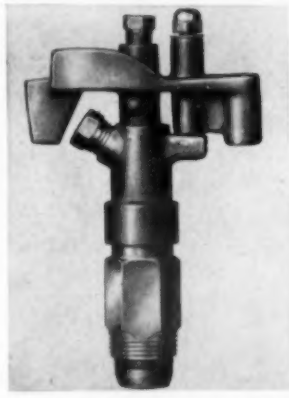
GEAR DRIVEN GOVERNORS
incorporate features of pulley type

Three advantages usually found in pulley governors are now incorporated in this gear driven mechanical type which is made with varied flanges and control levers to meet specific engine applications. External two-spring system now provides closer regulation over wide operating range without spring change. Secondly, units now employ ball or roller bearings at all load points to minimize friction. Large oil capacity and use of oil seals throughout eliminate need for daily oilings. Made by **Hoof Products Co.,** Dept. N, 6453 S. Laramie Ave., Chicago 38, Ill.



For more details circle **NED-601 D4** on enclosed inquiry slip

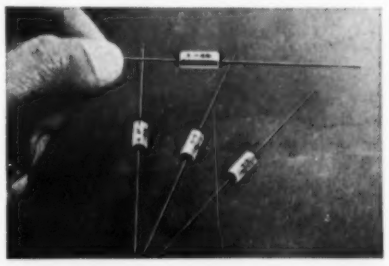
SPRINKLER HEAD
operates under adverse conditions



Springless sprinklerhead is of stainless steel construction and is designed for operation under adverse field conditions. It operates by jet action of the water and has an integrally cast skirt which prevents foreign matter from entering the rotary bearing. It is reported that this design results in efficient operation even when sand or silt are pumped through the system. Made by **Lindsay Mfg. Co.,** Dept. NE, Ashland & Hermosa Ave., Lindsay, Calif.

For more details circle **NED-602 D4** on enclosed inquiry slip

ELECTROLYTIC CAPACITORS
0.01 to 8.0 mfd capacity range



The same quality in larger units is maintained in these subminiature Tantalum foil electrolytic capacitors only 9/16-in. long by 3/16-in. diameter. Capacitors are well suited for application in transistor circuits and for other uses demanding compactness. They cover operating temperature range from −55 to 85° C and have low leakage. Thirty-five subminiature units are available, ranging in capacity from 0.01 to 8.0 mfd and from 3 to 150 wv dc in both polarized and nonpolarized types. Power factor characteristics are good even at lowest operating temperature. Made by **Cornell-Dubilier Electric Corp.,** 1047 Hamilton Blvd., South Plainfield, N. J.

For more details circle **NED-603 D4** on enclosed inquiry slip

BROAD BAND AMPLIFIER
for 2000 to 4000-megacycle range

Designed for use as either a laboratory tool or a system component, model 24 broad band amplifier utilizes a traveling-wave tube to provide high gain over the 2000 to 4000-megacycle frequency range. Typically the small-signal gain averages 35 decibels and the saturation power output 30 milliwatts. Noise figure is approximately 20 decibels. Unit is completely self-contained, including regulated power supplies and tube focusing structure. It is housed in a case of JAN aircraft equipment dimensions which is 4⅞-in. wide, 7⅝-in. high and 19 9/16-in. deep. Primary supply requirements are 108 to 122 v at 1 amp, 50 to 800 cycles. Made by **Westlabs Inc.,** Dept. D1, P. O. Box 1111, Palo Alto, Calif.

For more details circle **NED-604 D4** on enclosed inquiry slip

"High Production" SANDER...

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NATIONAL NS SANDERS

National Sanders are made for tough use on production lines. Properly used, they will cut sanding time up to 75% over hand sanding . . . reduce operator fatigue . . . and, at the same time, produce a better finish. These lightweight, vibrationless block sanders can be used on wood, metal, plastic, felt, stone, and other surfaces. Write for more information today.

NATIONAL AIR SANDER, INC., 2820 Auburn St., Rockford, Ill.

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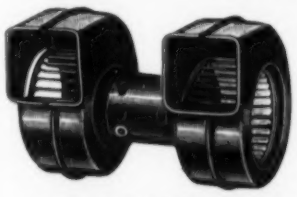

Redmond 200 CFM Double Blower

Made of heavy gauge steel, with 4¾" Torrington carefully balanced airotors delivering 200 Cu. Ft. per Min. Has 115 V, 60 C, 90 Watt, 1450 RPM type L double shaft rubber mounted motor.

53431 Each **$7.49** 6 Lots Each **$7.19**

Mounting Flanges

Steel 4¾" square flanges for mounting blower.

42764 Each **30c**

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- Mark your workpiece with it.
- The **Tempilstik°** will leave a liquid mark as soon as its specified temperature is reached.

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gives up to 2000 readings

Available in these temperatures (°F)

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125	225	325	500	900	1300	1700
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150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
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PLEASE SEND FREE— sample pellets for trial under our actual working conditions. Temperature of interest to us is .....

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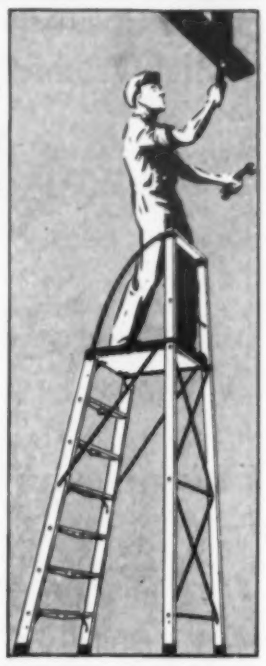
save accidents
save money on the

safety level



. . . and enjoy the safety of the greatest feature ever built into a ladder—the Dayton "safety level" working platform. Check the "big 6" features that make a Dayton your best buy!

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3. Rubber safety shoes.
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Dayton safety ladders

Dayton safety ladder co.
2339 Gilbert Ave., Cincinnati, O

In Canada:
Safety Supply Co., Toronto

▲ For more details circle NED-608 D4 on enclosed inquiry slip ▲

...for finer finishing

Whether you grind, smooth or polish metal, wood, plastics, leather or rubber, there is a standard or special Jewel Brand Velvet Joint Abrasive Belt designed and made to help you do a better job . . . faster . . . at a lower cost.

Select the right one for *your* particular requirements now. Send for the new, revised Jewel Brand Abrasive Products Catalog and Price List today. Abrasive Products, Inc., 525 Pearl Street, South Braintree, Mass.

JEWEL BRAND *coated* **ABRASIVES**

▲ For more details circle NED-609 D4 on enclosed inquiry slip ▲

for split second timing . . .
precise reproducible control

LEKTRA TM-8
Electronic DECADE Interval Timer
$65.00
(no excise tax)

Gives 1,110 Timing Intervals (.1 to 111 seconds). The LEKTRA TM-8 is essential to photo and electrical lab work requiring split-second timing accuracy and instant reproductibility. Flexible . . . simple to operate in setting and duplicating intervals. Decade switches — calibrated in tenths, seconds and tens of seconds—are so connected that the total time is the sum of their readings.

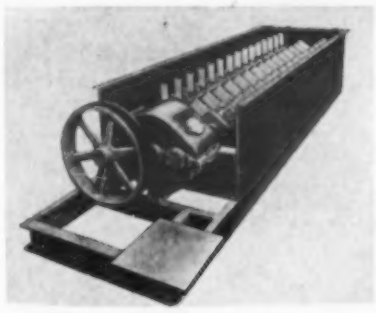
FOR DARK ROOM . . . SPECIAL LAB WORK . . . COLOR PROCESSING. Versatility of the TM-8 adapts it for the widest range of timing applications.

Write for illustrated Catalog
A line of Electronic Timers and Synchronous Motor Timers

LEKTRA LABORATORIES, INC.
Manufacturers and Developers of Electronic Equipment
154 11th Avenue New York, N. Y.

▲ For more details circle NED-610 D4 on enclosed inquiry slip ▲

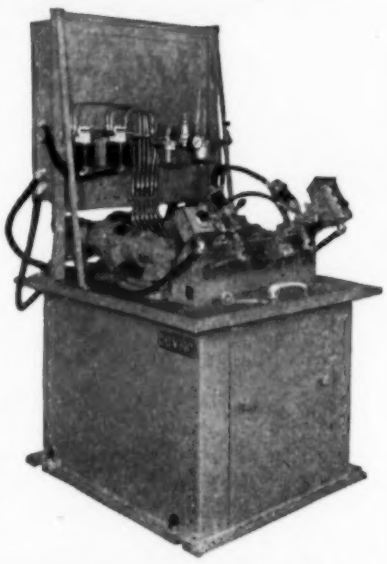
BLENDING MACHINE
for mixing liquids and fine solids



Designed for mixing liquids with fine solids, Hydro Blender is a box-like unit having two 12-ft long paddle shafts which revolve in opposite directions. As the paddles mesh at the center, materials are blended by upward, backward and forward motion. Materials are fed by clamshell, conveyor or other methods and are discharged from the drive end through a spout. Paddle shafts are available in 6 and 8-in. square sizes, each being fitted with bolt-on replaceable paddles. They are gear driven and are lubricated by splash, grease fitting and oil mist systems. Made by **McLanahan & Stone Corp.**, 1500 Ward St., Hollidaysburg, Pa.

▲ For more details circle NED-611 D4 on enclosed inquiry slip ▲

MULTIPLE DRILLING MACHINE
with four automatic drilling units

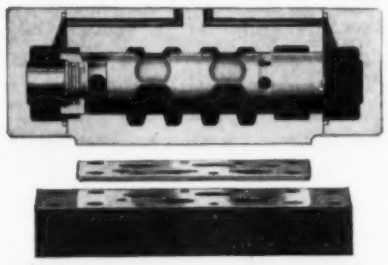


Multiple drilling machine drills right and left-hand parts simultaneously. It incorporates four automatic drilling units, and in the arrangement illustrated, tap-drills two ¼-in. 20-holes in two door handles in one operation at the rate of approximately 600 parts per hour. Work is manually loaded, remainder of machining and unloading cycle being automatic upon initiation when start-cycle buttons are pressed. Made by **Govro-Nelson Co.**, 1935 Antoinette St., Detroit 8, Mich.

▲ For more details circle NED-612 D4 on enclosed inquiry slip ▲

SHOCK RESISTANT VALVE
solenoid operated four-way type developed for 3000 psi service

Spool with a scalloped design is incorporated in the series 6600 gasket mounted, solenoid operated four-way valve to eliminate impact and shock. Gradual opening and closing increases or decreases areas to the ports as the spool is moved left or right. Metering grooves built into the spool, plus a choke block assembly to control the spool speed, aid in allowing the flow to enter the valve with a smooth action and permit use as a decompression valve and four-way valve in one.



Design is for 3000 psi oil hydraulic service. Two basic valves can be used for five sizes by changing pipe tap size. The 1-in. valve can be used for ½, ¾ or 1 in. IPS and the 1½-in. valve can be used for 1¼ and 1½ in. Solenoids operate on 3.6 amp inrush and 0.45-amp holding at 115 v. Made by **Rivett Lathe & Grinder, Inc.**, Dept. NEP-2, Brighton 35, Boston, Mass.

▲ For more details circle NED-613 D4 on enclosed inquiry slip ▲

DO YOU KNOW? The Coloroute Plan is a new method for controlling every phase of industrial lubrication. Color symbols are used to control the selection, handling and application of all oils and greases from the "barrel to the bearings" of machines. Coloroute Kit contains six colors of quick-drying lacquers in spray type dispensers, set of stencils in different designs to represent the varying frequencies of applications of different lubricants, lubrication analysis sheets, master record cards and oil room identification chart. Plan developed by Stewart-Warner Corp., Alemite Div., Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

▲ For more details circle NED-614 D4 on enclosed inquiry slip ▲

GREATER PRODUCT PROTECTION
Warranteed by "BUILT-IN SEAL"

POLYETHYLENE BAGS AND LININGS

Patented seal outlasts life of bag or liner . . . exceeds sidewalls in strength. Protects precision parts from corrosion, dirt, etc. Transparent for quick, easy identification.

Polyethylene—chemically inert to acids and alkali—is strong, flexible, waterproof—unaffected by extreme cold. Seals out moisture vapor. Ideal for lining cartons, paper bags, fibre and steel drums for storage . . .domestic or export shipments. Special shapes—printed or plain—available for products of unusual shape.

"Built-In Seal" heavy gauge, polyethylene bags and liners cost less, yet are finest quality, because of our modern production methods and special company designed and built equipment.

Send for full information and cost quotation.

SPECIAL FREE OFFER
Write for quotation on your letterhead and receive *free* a household kit of 4 storage bags. Limited to North American Firms—two per firm. Offer expires September 1, 1954.

Plastic Packaging Company
730D N. FRANKLIN ST. • CHICAGO 10, ILL.

▲ For more details circle NED-615 D4 on enclosed inquiry slip ▲

If *yours* is to be a *Superior* machine

It deserves *the best* variable speed drive

GET **Graham**
variable speed drive

- **ULTIMATE in SIMPLICITY and COMPACTNESS**—only the Graham is a straight line extension of a standard induction motor—or available without motor.
- **UNLIMITED SPEED RANGE**—from any desired maximum speed to zero, including reverse if wanted without stopping motor.
- **UNMATCHED ACCURACY**—of speed setting and resetting and speed holding.
- **NO PERISHABLE PARTS**—such as belts or tubes, requiring periodic replacement.
- **PROVED PERFORMANCE**—Fifteen years satisfactory use as standard equipment.
- **LOW COST**—a better job for less money.

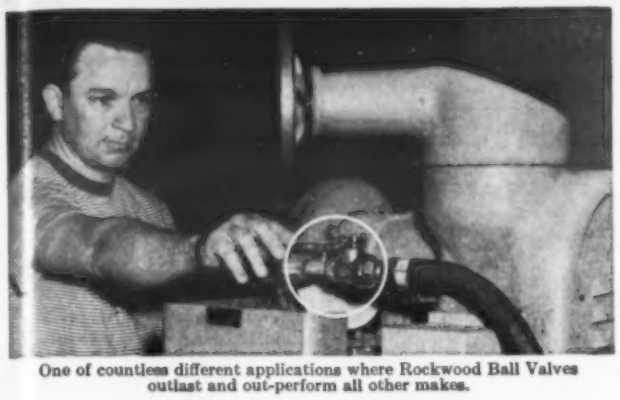
Prompt Delivery on Standard Models

GRAHAM TRANSMISSIONS, INC.
Dept. NED, Menomonee Falls, Wis.

GET **Graham**
most reliable variable speed drive made

Because engineered and rated for continuous round the clock service

▲ For more details circle NED-616 D4 on enclosed inquiry slip ▲



One of countless different applications where Rockwood Ball Valves outlast and out-perform all other makes.

Do you need a MAINTENANCE-FREE VALVE?

Maintenance-Free in Coolant Service. Previous valves on this grinding machine were repaired or replaced at least once weekly. The present Rockwood Ball Valves, operating 500 times daily, have required no maintenance in over a year.

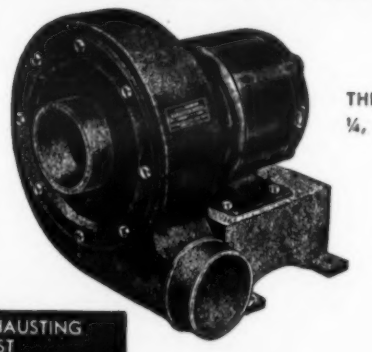
Other features: full *round* flow, positive leakproof seating, quick opening and closing. Tested and listed by Underwriters' Laboratories, Inc. Write for complete details. Rockwood Sprinkler Company, 44 Harlow Street, Worcester 5, Mass. Distributors in all principal cities.

ROCKWOOD

ROCKWOOD *FULL-FLOW* BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

▲ For more details circle **NED-617 D4** on enclosed inquiry slip ▲

THE *Sutton* MOTOR DRIVEN PRESSURE BLOWER



THREE SIZES ¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY. CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6". Write for literature and prices.

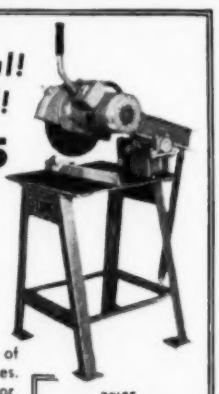
Sutton *Manufacturing Corp*
112 W. WILSON AVENUE NORFOLK, VIRGINIA

▲ For more details circle **NED-618 D4** on enclosed inquiry slip ▲

IT'S NEW! It's Powerful! It's Low Priced!

STONE Model M-35

12" Cut-Off Machine
For Ferrous and Non-Ferrous Metals

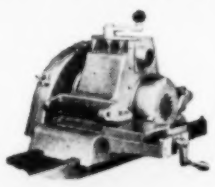


CAPACITY
Ferrous—1½" solids, 2½" O.D. pipe, 2½" structurals
Non-ferrous—2½" solids, 3" tubing and extrusions

We are proud to present the newest member of our superior line of high speed cut-off machines. The M-35 has a full 3½ h.p. geared-in-head motor. The direct drive insures delivery of full power to the cutting edge. Result — faster cutting (3 seconds per square inch of metal) and greater wheel life.

PRICE
Completely Equipped Ready for Cutting
$445
F.O.B. Syracuse, N. Y.

MODEL M-75
Full 7½ h.p. geared-in-head motor. Will cut all ferrous and non-ferrous solids up to 2½", pipe and structurals up to 4". Can be equipped for wet cutting.



MODEL SS-20
Operates on guided rails for cutting larger structural steel, plate, sheets, with cuts up to nine feet in length. Cuts wet or dry.

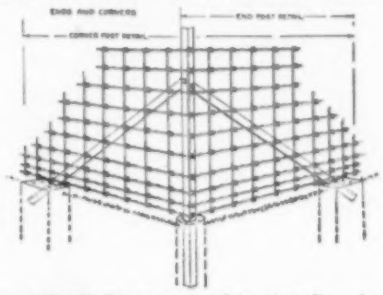
STONE ABRASIVE WHEELS
Cut 25% faster — average cutting time is 3 seconds per square inch of metal. Increased wheel life up to 25%. Write for prices.

For complete information write to
STONE MACHINERY CO., INC.
Fayette St. Manlius, N. Y.

▲ For more details circle **NED-619 D4** on enclosed inquiry slip ▲

STEEL FENCE POSTS made in 60 to 108-in. lengths

High strength rail steel fabricated in an angle cross section is used in the manufacture of a line of light weight end, gate, intermediate and corner fence posts. They are finished in aluminum and made in 60, 62, 84, 96 and 108-in. lengths for setting in concrete. Made by **H. K. Porter Co.,** Buffalo Steel Div., Tonawanda, N. Y.



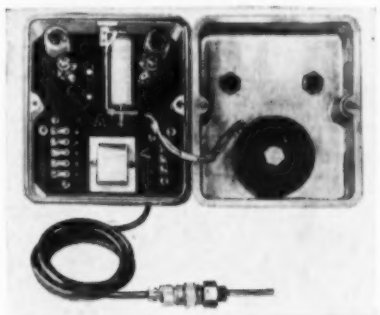
▲ For more details circle **NED-620 D4** on enclosed inquiry slip ▲

SQUARING SHEARS in foot, air and power models

Squaring shear line includes 18 models comprised of power, air and foot operated units. Capacities range from 20 to 14-gage mild steel in 22 to 72-in. sheet widths. They are of rigid box-type construction and have reversible four-edged knives. Foot-operated units have treadle extending full length of the base, and air-operated units are piped and shipped ready for operation. Model 1672 power shear is illustrated. This unit has gear transmission and electrically-controlled clutch, and is available in both heavy duty for 14 and 16-gage mild steel and in standard types for 18 and 20-gage steel. Variety of accessories is available for all models. Made by **Famco Machine Co.,** 3108 Sheridan Rd., Kenosha, Wis.

▲ For more details circle **NED-621 D4** on enclosed inquiry slip ▲

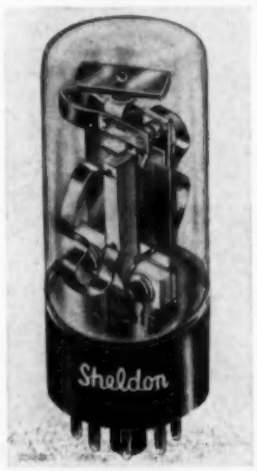
ELECTRONIC TEMPERATURE CONTROL for —200 to 500° C range



Standard ranges of series 97 electronic temperature controller are zero to 100, 300 or 500° Fahrenheit and Centigrade, but unit can be supplied for any range between −200 and 500° C. Sensitivity is 0.25° F for all ranges. Instrument is designed for any industrial or laboratory application where accurate temperature control is required. A single dial sets the temperature control point, and red and green lights indicate whether temperature is above or below the set point. Single-pole two-way control contact will handle 220 v at 5 amp. Made by **Robertshaw-Fulton Controls Co.,** Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle **NED-622 D4** on enclosed inquiry slip ▲

THERMAL DELAY RELAYS in 6.3, 26.5 and 117-v ac-dc heater inputs and 5 to 300 sec time delays



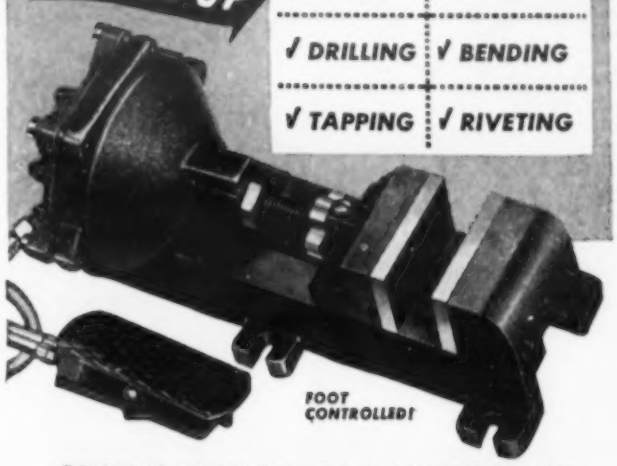
Where dependable delay control of electrical circuits is desired as in industrial, aeronautical, and marine applications, lightweight thermal delay relays are practical. Relays are currently available in 6.3, 26.5 and 117-v ac-dc heater inputs with time delays of 5 to 300 seconds at 25° C. Contacts operate in arc quenching atmosphere within hermetically sealed standard T9 radio tube glass envelope. This enables them to make and break relatively heavy currents at considerable voltages.

For units with 75-second delays, contact rating is 3 amp at 150 v dc or 250 v ac. Relays with 105 second or more delay are rated 3 amp at 450 v ac/dc. Made by **Sheldon Electric Co.,** 76 Coit St., Irvington 11, N. J.

▲ For more details circle **NED-623 D4** on enclosed inquiry slip ▲

SPEEDY AIR VISE

SPEEDS UP
- ✓ MILLING
- ✓ PUNCHING
- ✓ DRILLING
- ✓ BENDING
- ✓ TAPPING
- ✓ RIVETING



GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$36.00**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2647 N. Normandy Ave. • Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

▲ For more details circle **NED-624 D4** on enclosed inquiry slip ▲

Announcing the *POWRWORKER "26"*

FEATURE BY FEATURE, IT'S ENGINEERED TO MEET YOUR OWN HANDLING REQUIREMENTS

Pallet: 4000, 6000 lbs. cap.

Platform: 4000, 6000 lbs. cap.

Stacker: 2000, 2500, 3000 lbs. cap.

Detailed job-studies in customer plants, warehouses and terminals dictated the features of the POWRWORKER "26." No truck on the market today can match the POWRWORKER'S combination of *user-benefits:*

- **Maximum Maneuverability**—Only 26" longer than the load, the shortest standard truck on the market.
- **Light Weight**—Completely fabricated construction combines maximum strength with least weight.
- **Stability**—Close-to-the-floor, low center of gravity
- **Great Efficiency**—Double reduction of spur gears gives maximum ton-miles at least power cost.
- **Balanced Load Distribution**—Double lift cylinders for smooth lifting and lowering.
- **Safety**—Deadman switch cuts power when brake is applied, handle automatically returns to brake-position.
- **Easy to Service**—All operating units accessible without lifting or dismantling. Drive wheel tire is quickly demountable.

We invite you to compare the 1954 POWRWORKER with any truck on the market! For details, call your local Clark dealer, listed in the Yellow Pages. Or send the coupon for literature.

Ask your Clark dealer about Clark's low-cost Pay-As-You-Go leasing plan.

CLARK EQUIPMENT

POWRWORKER SECTION
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan

☐ Please send POWRWORKER literature. ☐ Have representative call.

Name_____
Firm Name_____
Street_____
City_____ Zone____ State____

▲ For more details circle **NED-625 D4** on enclosed inquiry slip ▲

WHY RISK

use UNBREAKABLE
PLAXPAK®
Polyethylene BOTTLES

LIGHTWEIGHT
CHEMICALLY INERT
SMOOTH POURING

They will improve plant safety . . . simplify handling of bulk fluids . . . protect purity of liquids put in them. For details, write for "Plaxpak Utility Bottles" brochure or ask to see your nearest Plax distributor.

PLAX CORPORATION
DEPT. D, WEST HARTFORD, CONNECTICUT
IN CANADA: Plax Canada, Ltd., Montreal & Toronto

For more details circle NED-626 D4 on enclosed inquiry slip

Tough! Flexible! Fire Resistant!

U. S. ROYAL CORDS AND CABLES

For light, power and control applications, United States Rubber Company offers a complete line of electrical conductors, power cables, flexible cords, flexible power cables, signal and communication cables.

For more information write the nearest U. S. Rubber Branch or the address below.

UNITED STATES RUBBER COMPANY
Electrical Wire and Cable Department, Rockefeller Center, New York 20, N. Y.

For more details circle NED-627 D4 on enclosed inquiry slip

NEOPRENE PROTECTION APPLIED LIKE PAINT!

coatings and linings against corrosive fumes or immersion by roller, brush or spray

Gaco LIQUID NEOPRENE PROTECTIVE COATINGS

N-700	N-200-1
General Maintenance Coating for protection against corrosive fumes and splash. Air Curing—No Heat.	Heavy Duty Lining for tanks and equipment—for constant contact and immersion. Heat Curing.

Send me the facts about this genuine Neoprene Corrosion Protection that goes on like paint at **LOWER APPLIED COST and OUTLASTS ALL OTHER COATINGS.**

Name.....
Company.....
Address.....

Send this coupon to
GATES ENGINEERING COMPANY
P. O. BOX 1711, WILMINGTON, DEL.

For more details circle NED-628 D4 on enclosed inquiry slip

AIRFOIL CENTRIFUGAL FANS
in diameters 12 to 123 in.

Wheel of this type A centrifugal fan for heating, ventilating and air conditioning applications is of backward curve, nonoverloading type with hollow-sectioned airfoil blades. Fan operates at over 90 per cent efficiency and is noiseless. Air deliveries range from 600 to 750,000 cfm, ⅛ to 32 in. static pressures, for wheels from 12 to 123 in. diameter. Steep pressure characteristic curve of fan makes it particularly suitable for high pressure air conditioning systems, induced and forced draft applications. Both wheel and housing are of all-welded heavy gage steel plate construction. Made by **Chicago Blower Corp.**, 4501-NE Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-629 D4 on enclosed inquiry slip

PACKAGED CORDS
designed for heavy-duty extensions

Line of Powr - Kord heavy-duty extensions is now packaged in individual corrugated cartons which are printed for display purposes and are strong enough to be used for storing of cords when not in use. Line comprises 22 extensions ranging from 15 to 150 ft long made of Royal rubber-jacketed type S and SJ cords up to size AWG 14. Heavy duty rubber caps and connectors with built-in strain reliefs are molded to cord to insure both safety and long life. They are listed by Underwriters Laboratories. Made by **Royal Electric Co.**, 97 Grand Ave., Pawtucket, R. I.

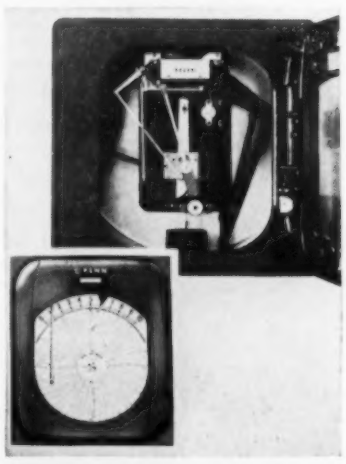
For more details circle NED-630 D4 on enclosed inquiry slip

RUBBER PIGTAIL SOCKET
rating increased to 600 w—600 v

Rating of No. 132 rubber pigtail socket has been increased to 600 w—600 v, more than double the rating of previous socket. Water-tight sealing boots wired with 6¾ in. of No. 14 type R wire, black and white striped, are featured as well. Water-tight lead entrance extends ½ in. deep to form absolute seal around wire. Soldered eyelets assure electrical connection of leads to screw shell. All-rubber construction creates lip which provides water-tight seal around lamp neck. Spreading, twisting or bending of leads cannot impair effectiveness of water-tight areas. Sockets are UL- and CSA-approved. Made by **Rodale Mfg. Co.**, Minor St., Emmaus, Pa.

For more details circle NED-631 D4 on enclosed inquiry slip

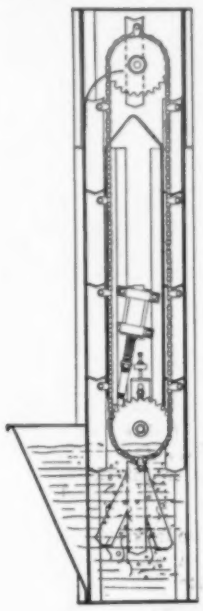
FLOW METER
tilting U-tube mechanical type



Redesigned to adapt it to modern panel instrumentation, the tilting U-tube mechanical flow meter retains its basic operating principle. Instrument records flow on evenly graduated charts and may be equipped with a pneumatic transmitter which provides air output directly proportional to flow. New design requires little or no maintenance and makes possible calibration without disturbing pipe connections. Differential range can be altered at any time by changing the cam weight. Manometer of welded steel will withstand 1000-lb working pressure. Pressed steel case is moistureproof. Made by **Penn Industrial Instrument Corp.**, Dept. 33, 4110 Haverford Ave., Philadelphia 4, Pa.

For more details circle NED-632 D4 on enclosed inquiry slip

NEW SELF-CLEANING AIR FILTER



exclusive "pulse-type" action keeps Automaze cleaner

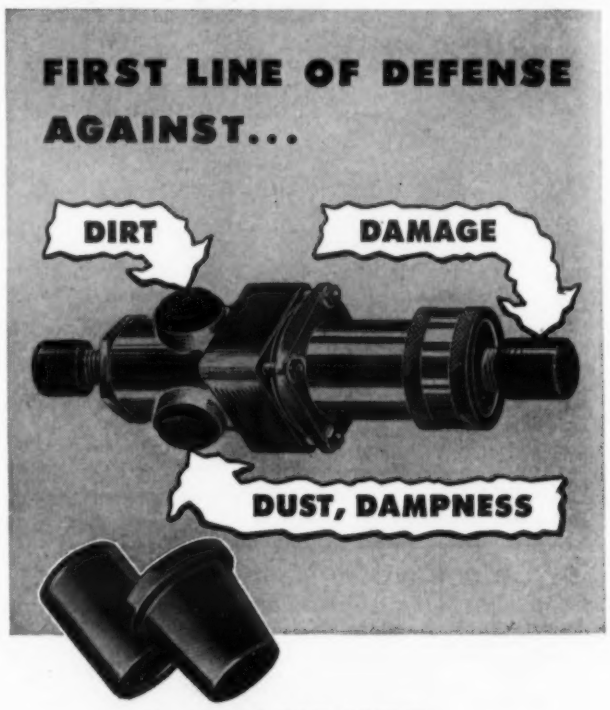
Not only does the new Automaze clean itself automatically but it keeps itself really clean as a result of its exclusive "pulse-type" action. While each panel in the revolving curtain is submerged in the cleaning tank at the bottom it is agitated vigorously 6 or more times by a compressed air drive. This cleans each panel thoroughly, completely renews the adhesive.

Replacing stationary filters which may need cleaning once a month, the new Automaze goes 3 to 6 months without attention. And then all you need do is remove the sludge on the bottom. A special reservoir makes this a quick, simple operation.

FREE BOOKLET: Send for free booklet for full details on the new Automaze. Write:

AIR-MAZE CORPORATION
25000 Miles Road • Cleveland 28, Ohio

For more details circle NED-633 D4 on enclosed inquiry slip



S.S.WHITE
ELASTOPLASTIC
PLUGS AND CAPS

When you invest money in an expensive part or piece of equipment, it's just good business to protect your investment against needless damage during shipment and storage. And one way to do this — at minimum cost — is with S.S.White Elastoplastic Plugs and Caps. These inexpensive flexible plastic plugs and caps are designed to cover or seal important openings or studs. They keep dirt and moisture out of interior parts — protect the protruding ends of tubing and studs against damage — and seal in hydraulic fluids.

Besides being low in cost, S.S.White Elastoplastic Plugs and Caps are easily applied and removed — they're unaffected by oil, grease and gasoline and are available in a wide range of sizes for every need.

WRITE FOR BULLETIN P-5312
It has full details on S.S.White Elastoplastic Plugs and Caps. Sample plugs and caps can also be furnished on request.

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO.
Dept. 7P, 10 East 40th St.
NEW YORK 16, N. Y.
Western District Office • Times Building, Long Beach, California

For more details circle NED-634 D4 on enclosed inquiry slip

Red Arrow LIFT TRUCKS

single stroke
lift truck
quick,
automatic action
easy rolling
positive safety
easy lift
easy steer

Lowest costing Lift Truck you can buy, the Red Arrow features speed, economy, and unusual ease of operation. Maintenance cost is remarkably low. Machined, standardized parts and machine-bolted frame speed and simplify occasional repairs . . . eliminate downtime. In time and manpower saved, the Red Arrow pays for itself many times a year on the job.

LIFT TRUCKS INCORPORATED
2423-31 Spring Grove Avenue • Cincinnati 14, Ohio
HYDROELECTRIC, HYDROMATIC and RED ARROW LIFT TRUCKS

▲ For more details circle NED-635 D4 on enclosed inquiry slip ▲

WHY AREN'T WE USING Severance CARBIDE HAND FILES?

MR. PRODUCTION FOREMAN:
YOU, TOO, WILL BE ASKED THIS QUESTION SOONER OR LATER, BETTER CHECK UP BEFORE IT'S TOO LATE!
WE'LL SEND YOU COMPLETE INFORMATION AND PRICES VIA RETURN AIR MAIL!
Phone, wire or write us RIGHT NOW!

Severance TOOL INDUSTRIES INC.
761 Iowa Ave., Saginaw, Michigan

▲ For more details circle NED-636 D4 on enclosed inquiry slip ▲

HEAVY LOADS roll Smooth and Easy

Starting Effort . . . 15 lbs.
Running Effort . . 10 lbs.
per ton weight

A simple, inexpensive, hand-propelled Cleveland Tramrail overhead materials handling system will pay for itself in a short time.

Overhead rails and transfer bridges make it possible to transport heavy loads directly to destination without in-between handling in a fraction of the time required for hand-handling.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6642 East 285th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL

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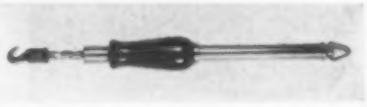
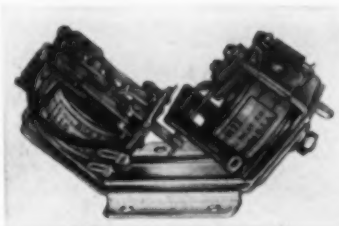
WIRE TIE TWISTER
for wire tie closure method



Rapidfire automatic twister, for use with the wire tie method of closing paper, cloth and plastic shipping bags, permits an experienced operator to close as many as 400 bags per hour. Resulting wire tie cannot slip, loosen or break, yet is easily opened without cutting or damaging the bag. Tool can bundle various products, secure coiled material, and tie down parts or equipment in transit. It is of all steel construction and a ratchet and spring return allows wire tie to be continually twisted. Annealed ties are available in all gages from 21 to 12, in lengths from 2½ to 48 in. and in coppered, solid copper, black galvanized and lime bright. Distributed by **Montgomery & Co.**, 1 Tichenor Lane, Newark 5, N. J.

▲ For more details circle NED-638 D4 on enclosed inquiry slip ▲

LATCHING RELAYS
coil mechanisms angle mounted



Dependable performance in any mounting position is given by Nos. 9177 and 9179 latching relays which incorporate principle of angle mounting for coil mechanism. Relays are designed for electrical and electronic commercial and industrial control applications and are compact, lightweight and resistant to vibration and shock. Contact rating is 8 amp at 115 v ac noninductive or 8 amp at 29 v dc resistive load. Wedge action feature utilizes latch faces with slight radius plus end-to-end operation of latch mechanism for positive latching regardless of wear or play in armature hinge joints. Made by **Leach Relay Co.**, Dept. NED, 5915 Avalon Blvd., Los Angeles 3, Calif.

▲ For more details circle NED-639 D4 on enclosed inquiry slip ▲

HAND GRINDER
heavy duty model has ¼-hp motor

Designed for heavy-duty grinding and milling operations, series 35 Handgrinder is powered by a ¼-hp continuous-duty motor delivering speeds up to 35,000 rpm for operation on either 115 or 230 v. It is available with either ⅛ or ¼-in. collet chuck. It can be used with a wide variety of tools including carbide mills. Overall length including chuck is 10¾-in. Body diameter is 2 7/16-in. and small diameter is 1 5/16-in. Weight is approximately 3 lb. Three precision bearings seated in steel inserts cast into the grinder housing are used. Made by **Dunmore Co.**, 1370 Seventeenth St., Racine, Wis.

▲ For more details circle NED-640 D4 on enclosed inquiry slip ▲

GRAVITY-FED HOPPER
supplies materials to working point

Gravity-fed hopper is designed to supply vertical mass material supply to the work point in congested areas. It has a volume of 34.8 cu ft, is 81-in. high and occupies a floor space of 40 x 46 in. Front legs are recessed under the work tray for convenient work positioning, material flow being regulated according to piece size by an adjustable control gate. Hopper is designed for loading by fork truck. Loading is shown taking place in illustration, where hopper is being used to expedite parts handling for a press operation. Made by **Union Metal Mfg. Co.**, Dept. NE, Canton 5, O.

▲ For more details circle NED-641 D4 on enclosed inquiry slip ▲

TEST HARDNESS OF ANY SIZE, SHAPE, TYPE METAL . . .
anywhere . . . in one easy motion!

This 30 oz., 3 in. high tester, in 30 seconds, gives direct dial readings on the job. Just press handgrips, read dial.

Accuracy guaranteed by individual calibration. Available in:

Rockwell "A" 35-75 Scale	Rockwell "15N" 70-95 Scale
Rockwell "B" 5-100 Scale	Brinell Medium 100-440 Scale
Rockwell "C" 6-70 Scale	Brinell Low 50-260 Scale

Now! Bench stand for mass production testing.

Write today for Booklet ET 498 or demonstration in your shop.

DISTRIBUTORS' INQUIRIES INVITED

NEWAGE INTERNATIONAL
portable metal hardness testers
ERNST PATENT #2536632. MADE IN U.S.A.

NEWAGE INTERNATIONAL, INC., 482 E. 42 ST., NEW YORK, N.Y.
NEWAGE (CANADA) LTD., 1174 BAY STREET, TORONTO

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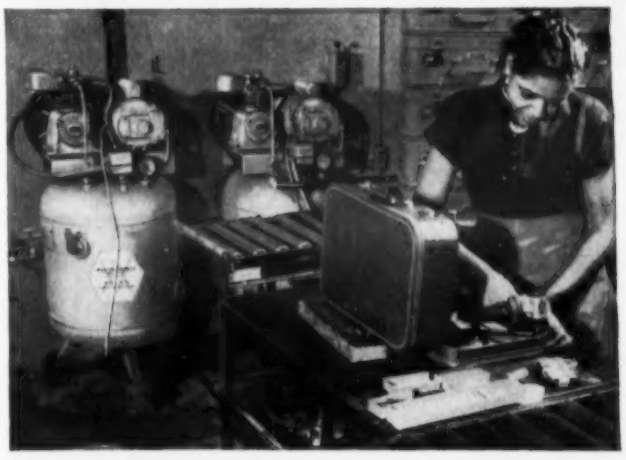

At the Baltimore Luggage Company they keep production flowing smoothly with an "On-the-Spot" AIR SUPPLY

● Air compressor trouble—a leaky valve or gummed up piston doesn't hold up production at the Baltimore Luggage Company. For they have two small Westinghouse Air Compressors at most job sites in the plant. When one compressor is "down" for repairs they switch to the auxiliary plant.

Air is cheaper with an "on-the-spot" air supply like this. Smaller compressors cost less to operate. Runs between compressor and equipment are shorter. Pressures are easier to maintain. And compressors last longer because they get less wear.

Westinghouse Air Compressors come in sizes ranging from 1½ to 15 hp. Your Westinghouse Air Compressor dealer can help you select the model that fits your requirements. He's listed in the classified section of your telephone directory.

There is a Westinghouse "Y" in the proper size to handle your air requirements. These two-stage, two cylinder compressors can give you high pressure for the jobs that require it, and with the addition of a Westinghouse Reducing Valve, fixed low pressure for jobs like spraying and polishing.

Westinghouse Air Brake COMPANY
INDUSTRIAL PRODUCTS DIVISION WILMERDING, PENNA.
Factory Branch: EMERYVILLE, CALIF.
Distributors throughout the United States . . . Consult your Classified Directory.
Distributed in Canada by: Canadian Westinghouse Co. Ltd., Hamilton, Ontario.

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Want a complete heat-treating department? LOW COST...COMPACT DESIGN ...HIGH PRODUCTIVITY

Features include:

1. Heating Furnace with range of 1000° to 2400° F. automatically controlled (12" wide x 10" high x 18" deep).
2. Tempering or Drawing Oven is recirculating type. Work is constantly bathed with evenly distributed high velocity and held to constant temperature by automatic control. Alloy steel lined with perforated shelf, has range of 250° to 1100° F. (21", wide x 10" high x 18" deep).
3. Furnace and Oven doors equipped with foot treadles.
4. Two Quench Tanks for oil and water. By means of double wall construction, oil tank is entirely surrounded by water for cooling oil, thus producing more uniform quenching.
5. Automatic electronic type controls.
6. Shipped ready to install by simply connecting gas and electric power line.

Think of the many advantages and economies of having a complete heat-treating department in your own shop, ready whenever you need it. No waiting! No production tie-ups! No expensive outside services! Think how much money you could save the very first month! It heat-treats, quenches, draws, stress-relieves, normalizes, anneals, with controlled atmospheres. Reasonably priced, too! Complete line of WALTZ standard or special heat-treating furnaces, using all types of fuels are built to suit your requirements.

Write Dept. B for comprehensive illustrated bulletins.

Waltz FURNACE COMPANY
SYMMES STREET • CINCINNATI, OHIO

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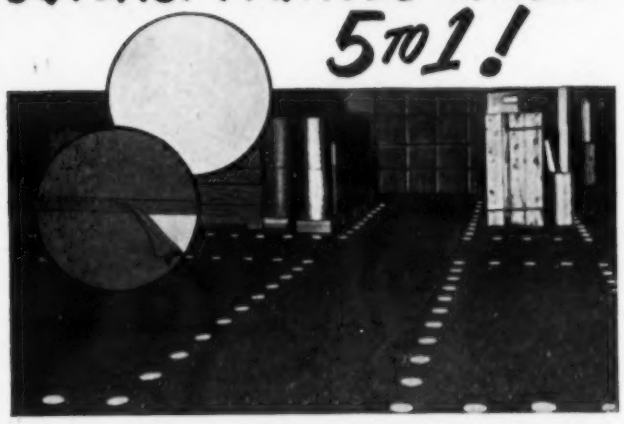
BRADY DOTTED LINE AISLE MARKERS

OUTLAST PAINTED LINES 5 TO 1!



NEW self-sticking Brady Aisle Markers cost less to buy, apply and maintain than any other aisle marking method. Stick instantly to clean, dry floors. No moistening or machines needed. Make straight or curved lines anytime without disrupting production. No one waits while paint dries. New, special plastic construction resists abrasion, dirt, acids, oils, most solvents. Stocked in four vivid colors and sizes; specials to order. Write today for literature and usable FREE SAMPLES!

WIRE MARKERS · SPECIAL MARKERS · AISLE MARKERS · PIPE MARKERS · SAFETY SIGNS · MASKS & STENCILS · PRINTED ROLL TAPES

MANUFACTURERS OF SELF-STICKING PRODUCTS

W.H. BRADY COMPANY
763 W. Glendale Ave. • Milwaukee 12, Wisconsin

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TUMBLE **GRAV-I-FLO** FINISH ...tumbling machines take

31% to 80%

more workload in the same floor space

Cutting Materials Shorten Cycle by 15% to 25%!

Grav-i-Flo equipment and supplies save substantially on mechanical deburring and finishing of metal parts, as well as produce a superior finish.

Complete Source: Machines in 5 sizes; natural and synthetic deburring and finishing chips and compounds; accessories for production tumbling.

SEND FOR CATALOG showing complete line of Grav-i-Flo equipment, accessories and supplies.

GRAV-I-FLO CORP., Dept. NED4, Sturgis, Mich.
☐ Please send complete catalog. ☐ Have Sales Engineer call. ☐ We are sending samples.

Company_____
Name_____ Position_____
City_____ State_____

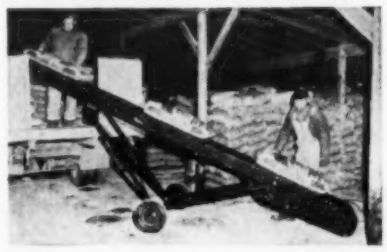
▲ For more details circle **NED-646 D4** on enclosed inquiry slip ▲

FLEXIBLE SHAFT MACHINE powered by 1/4 or 1/3-hp motor

Hang-up type model B38 flexible shaft machine can be furnished with either 1/4 or 1/3-hp motors with speeds of either 1725 or 3450 rpm. Either 5 or 6-ft flexible shafts are available. Unit is adaptable to grinding, buffing, sanding, wire brushing, polishing and drilling in metal and wood. It is suitable also for use in combination for multiple drilling setups. Made by **Stow Mfg. Co.,** 26 Shear St., Binghamton, N. Y.

▲ For more details circle **NED-647 D4** on enclosed inquiry slip ▲

PORTABLE FLAT BELT CONVEYORS cut truck loading, unloading time



Both bulk and packaged materials can be handled by line of heavy duty portable flat belt conveyors designed to speed loading of trucks. Motor switch controls belt direction for loading or unloading as desired. Units are available with detachable hopper, caster or two-wheel undercarriage, gasoline engine, as well as electric motor in various horsepowers. Ruff-Top belt is carried on closely spaced rollers with sealed bearings. Conveyors are available in various lengths by the foot and are also sold as stationary units. Unit shown can be trailed behind truck at high speed. Made by **Kay Enterprises,** Dept. NED, Janesville, Iowa.

▲ For more details circle **NED-648 D4** on enclosed inquiry slip ▲

GAS TESTING UNIT for heat treating atmospheres

Visual testing unit for analysis of heat treating furnace and other special atmospheres is designed for portability, weighing approximately 35 lb and being completely housed in a 22-in. long metal carrying case. Standard tests such as carbon potential and sulphur content are quickly made. Test sample of the metal to be heat treated is clamped between two electrodes in a Pyrex tube which is arranged so that it can readily be filled by the gas or atmosphere under test. Specimen temperature is governed by a rheostat. Made by **Electric Furnace Co.,** 450 W. Wilson St., Salem, O.

▲ For more details circle **NED-649 D4** on enclosed inquiry slip ▲

MARKING STAMPS for marking forging dies

Flat-faced letter and figure stamps are designed for marking forging dies to produce finished forgings with raised characters. Design provides clearance in the stamped die so that when a part is forged, metal will not lock in the markings. Flat face assures legibility, and round beveled sides minimize rejects. Known as type FR, stamps are made from safety steel and will not mushroom or spall in service. They are available in a full size range from 1/16 to 1/2 in. and in special sizes to order. They are available in full sets or in single pieces, sets being supplied in wooden boxes. Made by **M. E. Cunningham Co.,** 1055 Chateau St., Pittsburgh 33, Pa.

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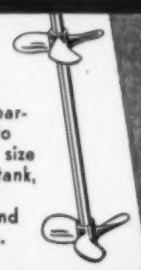
Your ALL-PURPOSE BATCH TYPE Mixer
FOR CONTINUOUS SERVICE

TYPHOON



Constant-duty motor—widely spaced ball bearings—adjusts to fit almost any size and shape of tank, at any angle. Direct drive and geared models.

LIGHTWEIGHT
STURDY
HIGH QUALITY
at moderate cost

WRITE FOR BULLETIN!

The Patterson Foundry and Machine Company
East Liverpool, Ohio, U. S. A.
NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA, PITTSBURGH, DETROIT, CINCINNATI, CHICAGO, ST. LOUIS, HOUSTON, DENVER, LOS ANGELES, SAN FRANCISCO, SEATTLE
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

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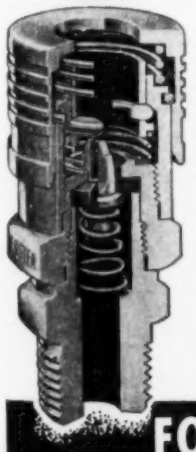
AMAZING NEW COUPLER FOR RECIPROCATING AIR TOOLS

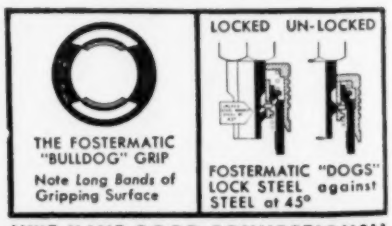
Can't Be Hammered To Pieces!

FOSTER Matic QUICK DETACHABLE COUPLERS

- Can Be Used Directly With Reciprocating Air Tools Without The Use Of Lead Hoses
- Will Not Fall Apart Will Not Blow Apart
- Steel Body and Sleeve From Solid Bar Stock
- Greater Air Capacity—Small Diameter—Light Weight

Holds tighter without leakage, yet swivels freely, "Dogs" lock—STEEL against STEEL at 45°, and are positioned by floating steel carrier. Eliminates all usual housing wear. Write for NEW descriptive literature FM-2.





"WE HAVE GOOD CONNECTIONS"

FOSTER MFG. CO. Inc.
2850 GRAVOIS • ST. LOUIS 18, MO.

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HOW YOU SAVE...

Getting Drier Compressed Air

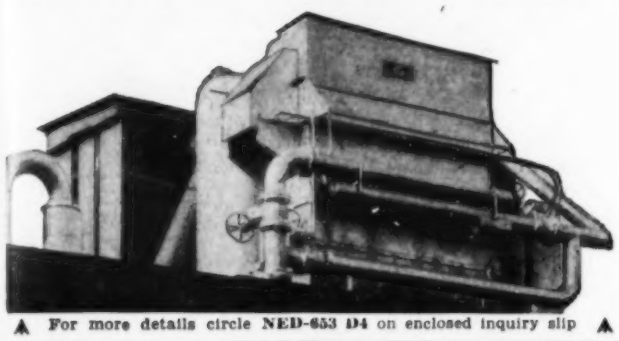
• You get lower costs and fewer troubles in the use of all air-operated machines, in paint spraying, in air cleaning or sand blasting, and lower maintenance and repair costs for all pneumatic tools.

The NIAGARA AERO AFTER COOLER assures these benefits because it cools compressed air or gas below the temperature of the surrounding atmosphere so there can be no further condensation in air lines.

Direct saving of cooling water saves you the price of the Niagara Aero After Cooler in less than two years.

Write for Bulletin No. 98

NIAGARA BLOWER COMPANY
Dept. ED, 405 Lexington Ave., New York 17, N. Y.



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SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

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CAL-WIC WIRE CLOTH

meets all special job demands

Whatever your special job demands may be—filtering, screening, grading, cleaning, or any other type of processing — Cal-Wic Wire Cloth is available in the right weave, mesh or weight to give long-lasting dependable service.

To order, write or phone our nearest district sales office.

THE COLORADO FUEL AND IRON CORP.
Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION
Atlanta • Boston • Buffalo • Chicago
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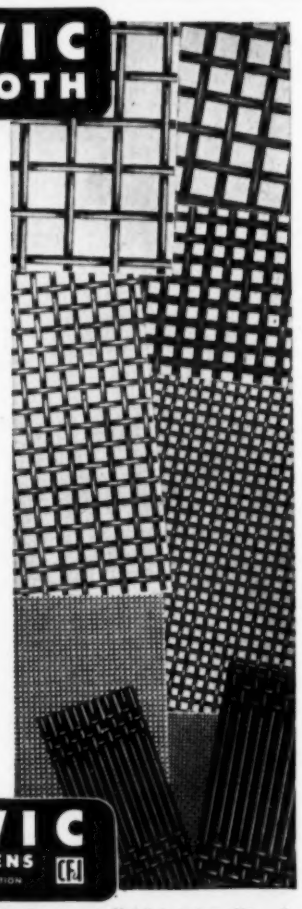
Philadelphia



CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

1250

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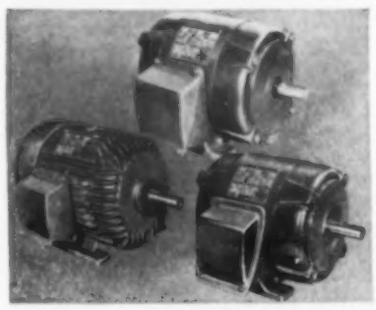
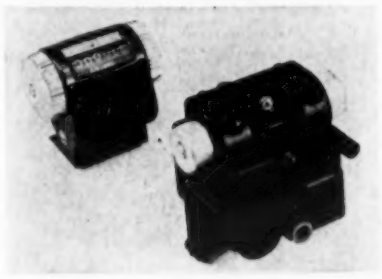
INDUCTION MOTORS
conform to new NEMA standards



Totally - enclosed fan-cooled, totally-enclosed nonventilated and dripproof enclosures (shown left to right) are offered in line of Life Line-A induction motors. Conforming to new NEMA standard dimensions for motors from 1 to 30 hp, they feature improved ventilation, insulation, efficiency and bearing protection and smaller size per horsepower. Extremely quiet operation is added advantage. Bondar wire insulation is a synthetic resin that has long life and high thermal endurance. Coil insulation is a combination of Mylar polyester film and rag paper. Dripproof motor is suitable for both indoor and outdoor use. Frames are of cast iron. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

▲ For more details circle NED-656 D4 on enclosed inquiry slip ▲

ENGINE FUEL METER
measures, records gasoline used



Continuous measurement and recording of gasoline being used by an engine is provided by an electrically operated fuel flow meter. Instrument makes possible an accurate check on gasoline used during any period, whether a few seconds or years. It allows a comparison of results from changing grade of gasoline, or from operating under varying conditions. Meter portion of instrument is easily installed between fuel pump and carburetor and counter mounts on instrument panel. It records up to 1000 gallons in 1/100-gallon units, after which it repeats. Capacity of meter is 12 gph. Made by **McCulloch Motors Corp.**, Dept. NED, 6101 W. Century Blvd., Los Angeles 45, Calif.

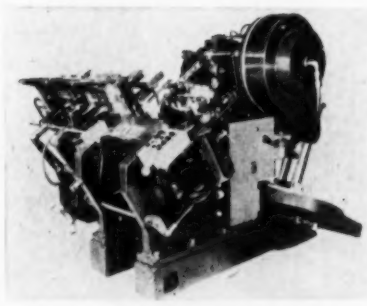
▲ For more details circle NED-657 D4 on enclosed inquiry slip ▲

RUBBER BUMPERS
angle, strip and doughnut types

Rubber bumpers for movable equipment protect doors, corners, walls and other equipment. They combine abrasion resistance with resiliency and are available in angle, strip and doughnut types. Standard color is neutral green, other colors being available on order. A flexible steel insert is molded into the rubber for extra strength. Made by **Darnell Corp.**, Dept. B, 12000 Woodruff Ave., Downey, Calif.

▲ For more details circle NED-658 D4 on enclosed inquiry slip ▲

STRIP FEED PRESS
operates at 300 strokes per minute



Almost twice as fast as the previous design, this automatic strip feed press is capable of operating at speeds beyond 300 strokes per minute. It is now used to produce sanitary can ends and closures. Press is equipped with an electrically controlled combination disk friction clutch and brake which permits instant starting. Feed bar with adjustable fingers is driven by crank and is adjustable for all sizes without removal. Idle stroke between strips has been eliminated and bolster area has been increased to 17 in. front-to-back by 16 in. left-to-right. Press timing is arranged for slide to stop automatically at top of stroke. Made by **E. W. Bliss Co.**, 1405 Raff Rd. S.W., Canton, O.

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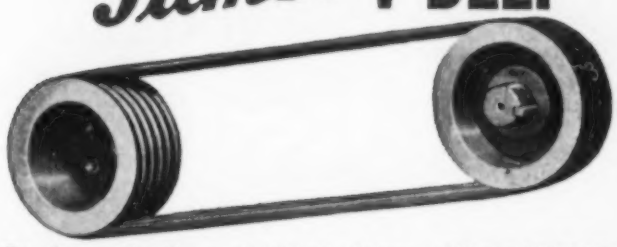
All the PULL you can use
is built into every
Gilmer V-BELT



In the early days of V-belt drives, Gilmer V-Belts established a reputation for rugged dependability and long life. Constantly improved as new rubber compounds, stronger fibers and better belt-building techniques were developed, the Gilmer V-Belts you buy today are the toughest, most durable in all Gilmer history!

Gilmer V-Belts are made in all standard and many special sizes. Order them from your nearby, stock-carrying NYB&P-GILMER Distributor.

NYB&P NEW YORK BELTING & PACKING CO. America's Oldest Manufacturer of Industrial Rubber Products

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Effect the sensational savings made possible by inside and outside contour machining of all industrial materials.

MOST COMPACT — LOWEST COST COMBINATION CONTOUR SAW-BAND FILER-BELT GRINDER

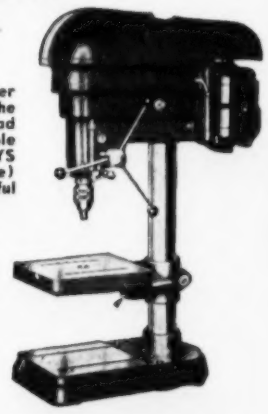
With extreme precision and continuous cutting with no backstroke, it slices away hard alloys and carbon steels in one-tenth the time required by slow milling, drilling, shaping and hand filing.

Produce maintenance parts, production parts, metal templates, special wrenches, wrench templates, cams, spiral parts, irregular shaped stacked parts and stamping, forming and trimming dies in minutes instead of hours. File broaching and flash removal in 1/9 the time required by hand and ¼ the time required by reciprocating filing machine. Eight speeds 92 to 4100 blade f.p.m.

Does all the same types of work that machines costing $1800.00 will do, yet costs less than $500.00.

THE ONLY 15" DRILL PRESSES RATED 5/8" CAPACITY

Boice-Crane Heavy Duty Helmet Head Series



50% thicker column (3/16" walls). Greater rigidity counts for closer precision at the chuck. 20% larger quill and deeper head reduces wear from side thrust on deep-hole drilling. 4" or more of the quill is ALWAYS supported. Rugged steel 6-tooth (involute) splined drive. Far more sensitive, powerful quill feed.

56 High and Slow Speed Bench and Floor Models 1-2-3-4 Spindles.

5 speeds—Easy speed changing. Various options on work tables. Heads and parts sold separately for special setups. Tapping heads, foot feeds and accessories.

AVAILABLE NOW! through industrial supply distributors in most cities. No long waits for delivery.

BOICE-CRANE COMPANY
951 Central Avenue Toledo 6, Ohio

Please send free literature on the Boice-Crane ( ) Contour Saw-Band Filer-Belt Grinder; ( ) 15" Drill Presses; ( ) Full line Catalog of Power Tools.

NAME .....
FIRM .....
STREET .....
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Now HERE'S a SENSATIONAL Expansion!

NEW! Brightboy with SILICON CARBIDE

For Faster, Finer Finishing of

• ALL METALS • PLASTICS • LAMINATED MATERIALS

Beat competition with versatile Brightboy's broader, better methods and faster, finer finishing—BURRING, CLEANING, FINISHING, POLISHING, IN ONE OPERATION. Time savings as high as 50%!

In answer to growing demand THE COMPLETE BRIGHTBOY LINE IS NOW COMPOUNDED WITH EITHER ALUMINUM OXIDE OR SILICON CARBIDE GRAIN

and . . . Brightboy is now available in a wide variety of grain sizes ranging from extra coarse to extra fine, in soft, firm and tough rubber binders.

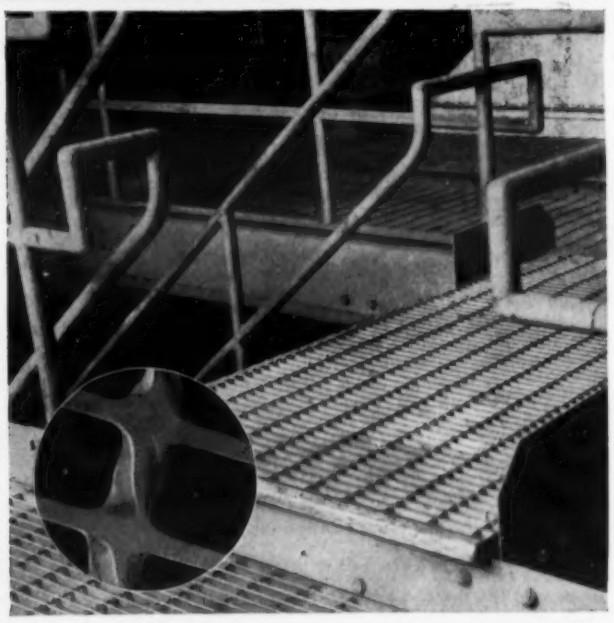
Write us for detailed information.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 No. 13th Street, Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle NED-662 D4 on enclosed inquiry slip ▲



Grating by BLAW-KNOX

where do **you** need

steel grating?

There must be lots of places where you are now using grating—floors, platforms, walkways, catwalks and stair treads, for example.

But how about other uses—such as some sturdy shelving or a fan guard—or for covering a dangerous open pit or a light well. Take a good look around your plant and you'll probably come up with several jobs, including perhaps a new use, as steel grating is adaptable to many applications.

Any time you want some help on a job related to grating, we'll be glad to hear from you.

Only BLAW-KNOX Electroforged® Steel Grating and Stair Treads —have these five exclusive features:

1. rigid one-piece construction —easy to install
2. all surfaces accessible —easy to paint
3. no sharp corners to clog —self-cleaning
4. maximum open area —for light and ventilation
5. non-slip twisted crossbar —safe footing

A short note will bring you a copy of new Bulletin No. 2365-R—a dimensional sketch will bring you a quotation.

BLAW-KNOX

BLAW-KNOX COMPANY
2068 Farmers Bank Bldg., Pittsburgh 22, Pa.
BLAW-KNOX EQUIPMENT DIVISION
GRATING DEPARTMENT

GRATING APPLICATIONS: floors • platforms • walkways • catwalks • stair treads • fan guards • shelving • and many other uses, both outdoors and indoors, for versatile steel grating

▲ For more details circle NED-663 D4 on enclosed inquiry slip ▲

CABLE & ROPE CUTTERS
cut ⅝-in. diameter steel rope

Shear-type tools for cutting steel cable and wire rope are available with two capacities: No. 1 TN for cable through ⅜-in. diameter and No. 3 TN for cable through ⅝-in. diameter. Jaws are notched to lock in the cable during actual cutting, and their design minimizes crushing either coarse or fine-stranded types. They are effective for all cable including ACSR, soft and hard rope, stranded guy wire and improved plow steel up to Brinell 400 or Rockwell C42 hardness. Made by **H. K. Porter, Inc.**, 75 Foley St., Somerville 43, Mass.

▲ For more details circle NED-664 D4 on enclosed inquiry slip ▲

SULPHUR DIOXIDE DETECTOR
can determine from 0 to 50 ppm

Rapid determinations of sulphur dioxide gas concentrations of 0 to 50 ppm in the atmosphere of a working area can be made readily with this portable gas detector. Maximum allowable concentration of the gas for working atmospheres is 10 ppm for an 8-hour exposure. User squeezes the aspirator bulb three times for an adequate air sample, then reads the gas concentration on a graduated scale on the detector tube. Available from **Mine Safety Appliances Co.**, 220 N. Braddock Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-665 D4 on enclosed inquiry slip ▲

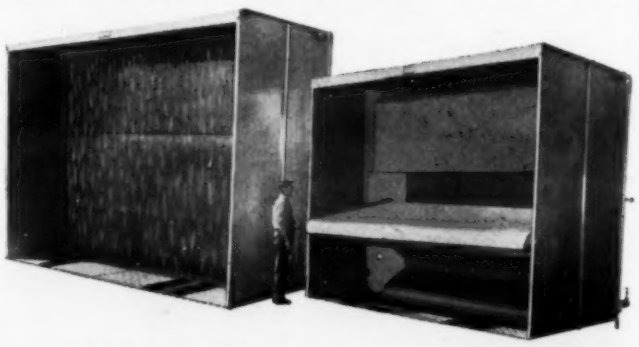
INTERNAL COMPARATOR
designed for small diameters

Internal diameters from $\frac{1}{16}$ to ¼-in. can be accurately checked by the model D Electrolimit universal internal comparator. It can also be used for checking roundness and taper. A bench type instrument, it is furnished with instrument cabinet containing a DDU meter calibrated in 0.001-in. full scale across its 4½-in. dial. Each division represents twenty millionths of an inch (0.000020-in.). In operation gaging fingers are set to a stack of Hoke gage blocks assembled with special caliper jaws and tie rods. Made by **Niles-Bement-Pond Co.**, Pratt & Whitney Div., 20 Charter Oak Blvd., West Hartford 1, Conn.

▲ For more details circle NED-666 D4 on enclosed inquiry slip ▲

SPRAY BOOTH
wash chamber is easily inspected

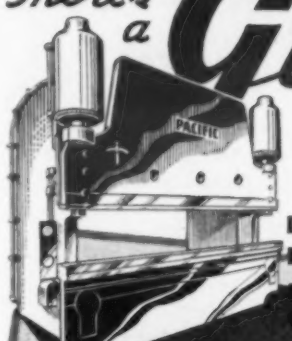
Hinged section of the water wall of this improved spray booth affords easy accessibility for inspecting and cleaning the wash chambers. Feature in no



way inteferes with the effectiveness of the water wall, nor does it impose any alterations in baffle arrangement. When in use for painting, hinged section is locked in position. It is fitted with grip handles and is counterbalanced. Made by **Westfield Sheet Metal Works, Inc.**, 816 Monroe Ave., Kenilworth, N. J.

▲ For more details circle NED-667 D4 on enclosed inquiry slip ▲

There's a **Giant** *growing in the West*



PACIFIC Press Brakes Now Outsell All Competitors Combined in California and Oregon

This Revolutionary Hydraulic Press Brake, First Introduced in 1946, Has Gained a Tremendous Acceptance by Western Industry and Is Now Rapidly Casting Its Shadow Across the Entire Nation.

THE PACIFIC is the only modern, advanced press brake designed for 1954—It can't be JAMMED—It can't be OVERLOADED—The stroke length is immediately ADJUSTABLE to match the job; imagine changing from a 1" to a 36" stroke in a few seconds! THE PACIFIC HYDRAULIC PRESS BRAKE is VERSATILE—It can be used for Deep Drawing, Heavy Punching, Air Bending, even Straightening. Custom presses can be delivered in a few weeks. Prices are competitive including freight costs from the West Coast. Sales and service available in all major cities.

PACIFIC INDUSTRIAL MFG. CO.
848 - 49th Avenue - Oakland, Calif.

▲ For more details circle NED-668 D4 on enclosed inquiry slip ▲

BRING YOUR "SPECIAL" PROBLEMS TO *National*

Cold heading "Specials" can lower fastener costs!

When you have any "Special" fastening problem . . . requiring an unusual type of bolt, nut, screw, pin or headed or threaded part . . . our engineers can help you design it . . . and we can produce it economically on our wider range of cold heading equipment and specialized machinery.

For prompt assistance in solving your "Special" problems, just send us your specifications or call in your nearest National representative for full information on National's "Special Products Service" and the most complete line of standard fasteners for industry.

★ ★ ★

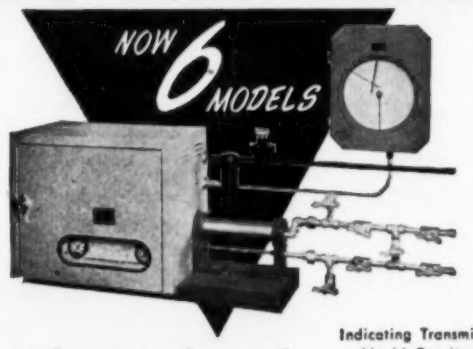
Representatives in Chicago, Cincinnati, Detroit, New York, Philadelphia, Kansas City, Milwaukee, Rochester, Denver, St. Louis, San Francisco, or Seattle—write or call direct to:

National

THE NATIONAL SCREW & MFG. CO.
2440 East 75th St., Cleveland 4, Ohio

▲ For more details circle NED-669 D4 on enclosed inquiry slip ▲

LIQUID GRAVITOMETER



Indicating Transmitting Liquid Gravitometer

. . . for pipelines, gasoline and chemical plants, refineries, etc.

Ruggedly built for hard field use but with laboratory accuracy, the long accepted ARCCO-Anubis Liquid Gravitometer with all its splendid features is now available for recording, controlling, indicating, transmitting, or various combinations of these functions. Write us fully about your application and request Bulletin No. 111 Revised.

1. RECORDING LIQUID.
2. INDICATING TRANSMITTING. Pneumatic
3. INDICATING CONTROLLING. Pneumatic
4. RECORDING TRANSMITTING. Pneumatic
5. RECORDING CONTROLLING. Pneumatic
6. RECORDING TRANSMITTING. Metameter

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

▲ For more details circle NED-670 D4 on enclosed inquiry slip ▲

For BAKING, CURING, DEHYDRATING, etc.
on an efficient, production line level

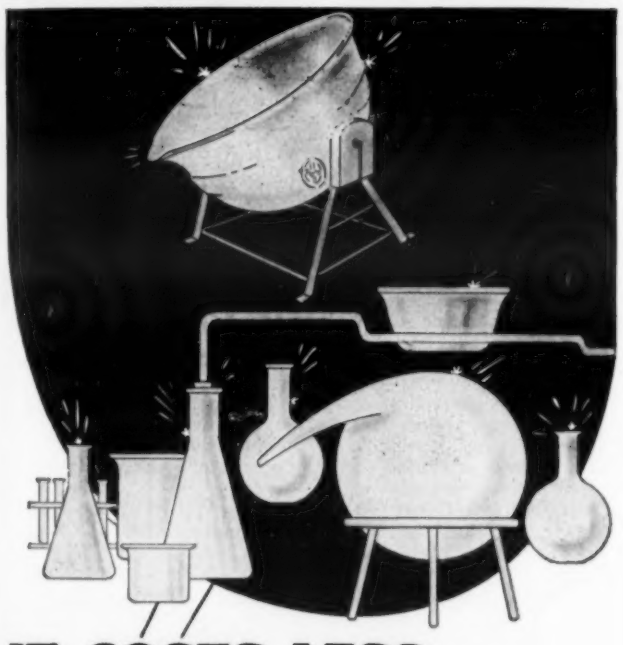
CHROMALOX *Electric* **RADIANT PANELS**

Ready to install, 1-ft. x 4-ft. and 2-ft. x 4-ft. pre-engineered Chromalox Panels generate intense, far-infrared energy to meet many processing and finishing heat needs. Tunnels in sizes to fit the work, can be quickly assembled in minimum space. Color-blind far-infrared radiation is absorbed efficiently by all colors and textures, can be controlled precisely, and gives other advantages possible with no other heat source!

Send For Bulletin CS-605
It gives details on pre-engineered Chromalox Electric Radiant Panels and shows how they meet your heat requirements.
18'35

Radiant Heat Div., EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.
See also advertisement on page 4
CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-671 D4 on enclosed inquiry slip



IT COSTS LESS—
to do a FASTER, EASIER, MORE EFFICIENT cleaning job on your equipment.

Whether it's glass piping systems, metal, plastic or glass lined tanks, food kettles, laboratory equipment, optical lenses, etc. ALCONOX can, and will clean thoroughly, safely and at a low cost of less than 2½ cents per gallon.

Its extremely high degree of wetting power, stability and penetration has already placed Alconox at the top of the list: Its low cost only adds to this distinction.

We invite you to check all brands and their prices. Then compare with WORLD-FAMOUS, TIME-PROVEN ALCONOX.

Convince yourself: Then place your order.

Literature, samples and the name of your nearest distributor on request.

Available in 50, 100 and 300 lb. drums

ALCONOX, INC.
WETTING AGENT DETERGENT
61-63 Cornelison Ave. Jersey City 4, N. J.

For more details circle NED-672 D4 on enclosed inquiry slip

BELT CONVEYOR
enclosed in formed box-type frames

Available in any length, the Speedtable belt conveyor is offered in 10 through 20-in. widths with canvas, oil-resistant Neoprene or rough top belts, or with sliders or roller bed. Units have smooth formed box-type frames which enclose the conveyor. The Speedrive power unit can be placed in any section of the belt conveyor line and is furnished with suitable horsepower to meet requirements. Conveyor is easily assembled in the field. Made by **Speedways Conveyors, Inc.,** 181 Speedways Bldg., Buffalo 13, N. Y.

For more details circle NED-673 D4 on enclosed inquiry slip

ROTARY SPEED CONTROL
for various automatic functions

Automatic control of rotary speed is attained with the mechanical-electric Translator, offered in two models. First will open or close any desired electric circuit at a predetermined speed in revolutions per minute, while the other model is a multispeed instrument which can be used for automatic control of a sequence of operations. Unit measures 2½ in. diameter by 4½ in. high and fits standard Army-Navy mounting pad. It will operate in any position and has an operating range of 1200 to 5000 rpm, with accuracy of ±2 per cent. Made by **Kahn & Co.,** 545 Windsor St., Hartford 1, Conn.

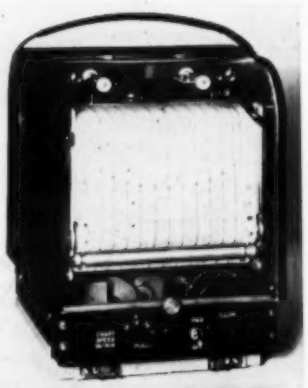
For more details circle NED-674 D4 on enclosed inquiry slip

MASTER TIME CONTROL
periodically corrects lagging clocks

All indicating clocks that have fallen behind because of prolonged power interruptions, are corrected to the exact time by the IBM 12-hour self-regulating electronic time system. Clocks lagging from 1 hour up to 11 hours, 59 minutes, 5 seconds are automatically corrected twice each day. Time lags of 59 minutes or less, or fast errors of up to 55 seconds, are supervised hourly and corrected in 1 minute as in other IBM time systems. System does not require any special clock and signal wiring. Existing IBM installations can make use of this system. Type 91 master time control shown operates and regulates the system. Made by **International Business Machines Corp.,** Dept. JBD-1, 590 Madison Ave., New York 22, N. Y.

For more details circle NED-675 D4 on enclosed inquiry slip

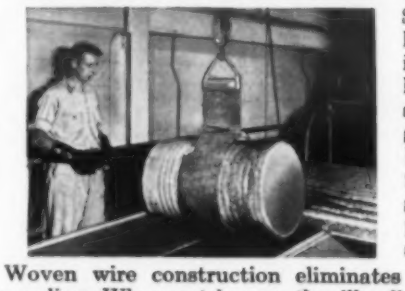
RECORDING MILLIAMMETER
has two channels, four chart speeds



Features of this ink-writing recording milliammeter include use of standard curvilinear chart paper, two independent channels and four selective chart speeds. Complete instrument occupies less than ½-cu ft and weighs only 15½ lb. Design incorporates magnetic fluid clutch meter movements which develop torques sufficient to create independence from shock, vibration and pen drag. Noncorrosive and durable alloy metal pens are used for both recording and marker timing, with different color inks in each channel. Four speeds are from 12 iph to 12 ipm. Frequency response ranges through 15 cps. Made by **Texas Instruments Inc.,** 6001 Lemmon Ave., Dallas 9, Tex.

For more details circle NED-676 D4 on enclosed inquiry slip

GRIPPER WOVEN WIRE SLINGS
give you GREATER UTILITY



Specially designed handles permit use in choke or basket hitch. Broad, flat sling body gives greater load stability. Complete flexibility gives greater gripping power, even around small radius loads.

Woven wire construction eliminates kinking, tangling, snarling. When not in use, they'll roll up into a compact coil or hang flat against a wall.

All metal construction means long life, freedom from damage, even in handling sharp edged loads.

Available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes on request. Every sling pretested to meet loading specifications.

The Cambridge Wire Cloth Co.
Dept. R • Cambridge 4, Md.

WIRE CLOTH · METAL CONVEYOR BELTS · SPECIAL METAL FABRICATIONS

OFFICES IN PRINCIPAL INDUSTRIAL AREAS

See your mill supply, materials handling or safety equipment distributor. Or, write direct for complete catalog and name of nearest distributor.

DISTRIBUTORS—write for open territory data!

For more details circle NED-677 D4 on enclosed inquiry slip

ORDER
JOHNSON UNIVERSAL BRONZE
by Bearing Size

SAVE machine time and money. Johnson Bronze Bars are completely machined—I. D., O. D. and ends . . . with 1/64" cut to bring to bearing size. No waste, no defects. Over 350 sizes, inside diameters ½" to 7¾", and outside diameters 1" to 10" in cored bars. Solid bars ⅝" to 8" diameters. All 13" lengths. Available from Johnson distributors and warehouses.

JOHNSON BRONZE CO.
580 S. Mill St., New Castle, Pa.

Write for New Catalog

JOHNSON JB BEARINGS
Sleeve-Type

For more details circle NED-678 D4 on enclosed inquiry slip

Here's HAND TRUCK News!

GUARANTEE
If this AMERICAN HAND TRUCK fails in service for any reason (normal wear on rubber tread wheels or corrosive attack excluded)—within five years from date of delivery—return it freight prepaid for repair or replacement to
THE AMERICAN PULLEY COMPANY
4200 Wissahickon Ave., Philadelphia 29, Pa.
SAVE THIS CARD—IT'S YOUR GUARANTEE

AMERICAN HAND TRUCK HEADQUARTERS
EFFICIENT MATERIALS HANDLING AT LOWEST COST

ONLY AMERICAN GIVES YOU THIS GUARANTEE

Clip and Mail Coupon For Bulletin

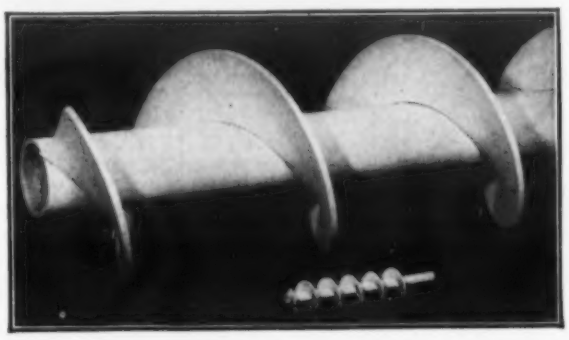
Materials Handling by
AMERICAN PULLEY COMPANY
Complete line of Pressed-Steel Hand Trucks, Barrel Cradles, and Steelite Industrial Wheels.

The American Pulley Company
4294 Wissahickon Ave., Philadelphia 29, Pa.
Gentlemen:
Please send me your latest bulletin on American Hand Trucks.
Name_____
Firm Name_____
Address_____
City_____ Zone____ State____

For more details circle NED-679 D4 on enclosed inquiry slip

BOTTLES TO BOXCARS

The large worm shown below is used for unloading boxcars while the small worm is used for filling bottles. An illustration of the sizes and designs available.



Helicoid and Ribbon,

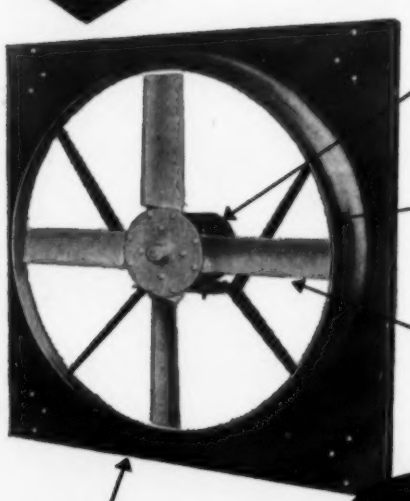
WORMS AND SPIRALS

JAMES EAGEN & SONS
150 8th St.
WEST WYOMING, PA.

▲ For more details circle NED-680 D4 on enclosed inquiry slip ▲

Big Value in fans

HIGH-PRICED FEATURES AT LOWEST COST



5400 to 36000 CFM (Certified)

HUNTER *Direct-Drive* INDUSTRIAL FAN

This powerful new fan (effective up to ½ in. static pressure) was designed for efficient performance and long life. Its heavy continuous-duty motor is permanently lubricated and sealed. Aluminum alloy blades are non-rusting, non-crystallizing, non-overloading. Direct drive reduces maintenance—no belts to adjust or replace. Blade sizes: 24 to 48 in. Automatic shutters to fit all sizes available at small additional cost.

Hunter

Write for Data Folder and Prices

HUNTER FAN AND VENTILATING CO.
373 S. Front St., Memphis 2, Tenn.

▲ For more details circle NED-681 D4 on enclosed inquiry slip ▲

HYDRAULIC BOOSTER PUMP
air-operated, delivers 30,000 psi

An automatic pilot-operated air selector valve eliminates stalling in model 10-302 air-operated hydraulic booster pump which has pressure outputs ranging from 0 to 30,000 psi when operating at 80 psi air pressure. Large air-driven piston is used to drive smaller fluid piston which, in turn, delivers fluid volume at high pressure. Either oil or water can be used for testing or powering, and both discharge and volume of fluid can be controlled by air pressure regulator installed in air supply line. Fluid output capacities range from 2½ gpm at 1000 psi to 8 cu in. per minute at 30,000 psi. Applications include static and burst pressure testing, flow tests and supplying fluid power for hydraulic presses. Made by **Southern California Hydraulic Engineering Corp.**, Dept. A, 6318 S. Central Ave., Los Angeles 1, Calif.

▲ For more details circle NED-682 D4 on enclosed inquiry slip ▲

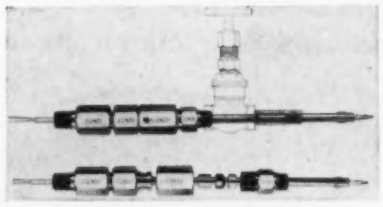
MAGNETIC BELT CONVEYOR
moves ferrous parts and scrap up steep inclines for discharge

Small ferrous parts and scrap from production machines can be moved up inclines as steep as 72 degrees by the Rapistan MP magnetic belt conveyor. It is designed to operate with low discharge presses. Permanent magnets mounted under the bed of the unit attract and hold iron and steel parts in position as they move up the belt. Unit has a 4-ft long box channel main bed section made of ⅛-in. aluminum.

Centered under the top of the bed are parallel magnetic plates bridged by permanently energized magnets. These stop short of the top drive pulley to allow discharge of materials handled. The 10-in. wide belt is smooth Neoprene with cleats of the same material at 12 in. intervals. Belt speed is 75 fpm. Conveyor is mounted on a 24 x 30-in. base equipped with 3½-in. wheels. Base height of 3½ in. allows front of base to be shoved under most wheeled tote trucks. Discharge height can be set at any point from 38 to 56 in. Made by **Rapids-Standard Co.**, Dept. MP, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-683 D4 on enclosed inquiry slip ▲

THERMOCOUPLE GLAND
permits thermocouples to be changed without reducing pressure in system



Designed to permit changing exposed wire thermocouples without reducing pressure in the system, C-U-P thermocouple gland allows continuation of operations while removing and replacing burned-out thermocouples. It is basically a standard thermocouple gland equipped with open end protection tube, packing gland and gate valve. These are assembled in such a way that it is impossible to loosen the wrong parts while pressure is being held by the thermocouple and packing glands.

Unit is capable of sealing several thousand pounds per square inch but in operation is normally limited to 500 psi by force required to slide the protection tube into the pressurized system. Temperature range is determined by gland and packing gland sealants and ranges up to 700° F. Parts are fabricated from stainless steel and are suitable for use with 14 or 20-gage thermocouple wires. Made by **Conax Corp.**, 4513 Main St., Buffalo 21, N. Y.

▲ For more details circle NED-684 D4 on enclosed inquiry slip ▲

Yes, PneuBin will move...
• DIFFICULT CHEMICALS
• SAND • CLAY
• WOOD CHIPS
...any material, for that matter
from Your Bins!

Material flow problems are our business. PneuBin is designed to aid in the evacuation of your bins through the principle of "positive displacement." We move the bin contents . . . not the bin.

The PneuBin unit consists of a steel-backed neoprene panel, mounted on the inside wall of your bin. By the pneumatic inflation and deflation of the panel, the bin contents are displaced and disturbed to activation. After the diaphragm has deflated, the air control unit (operating off the regular plant air supply) starts another cycle of inflation and deflation. The process continues automatically at whatever frequency is set on the air controller.

Because the neoprene panel is resistant to oils and most chemicals and is also thick and tough enough to withstand severe abrasive service, PneuBin is applicable to most any bin flow problem.

Send for "Flow Stoppage Report" and free literature. PneuBin engineers will gladly make recommendations, with no obligations on your part.

PneuBin is a product of
GEROTOR MAY CORP. • BALTIMORE 3, MD.

PneuBin

Manufacturers of **GEROTOR**
HYDRAULIC PUMPS & MOTORS

▲ For more details circle NED-685 D4 on enclosed inquiry slip ▲

Guaranteed!

● Blast cleaning counter claims fly thick and fast. Here's a simple straightforward statement: "We will guarantee your cleaning costs per unit of work blast cleaned will be at least 15% lower *regardless* of the price you are now paying for chilled iron abrasives!"

Controlled T shot and grit can make this statement—and back it up—because: it deforms before shattering and therefore lasts longer; it does a cutting job without wearing out your blast cleaning equipment, because its BHN is *controlled!*

Write the nearest Hickman, Williams office for proof and a complimentary copy of "A Primer on the use of shot and grit."

National Controlled "T" Shot and Grit is Produced Exclusively by

THE NATIONAL METAL ABRASIVE CO. • Cleveland, Ohio
WESTERN METAL ABRASIVES CO. • Chicago Heights, Illinois
AND SOLD EXCLUSIVELY BY
HICKMAN, WILLIAMS & CO.
(INCORPORATED)
CHICAGO • DETROIT • CINCINNATI • ST. LOUIS • NEW YORK
CLEVELAND • PHILADELPHIA • PITTSBURGH • INDIANAPOLIS

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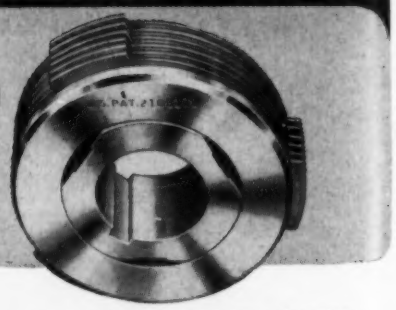
New
FOR MACHINE...PRODUCT DESIGNERS

BUILD YOUR OWN CLUTCH WITH THE



MAXITORQ "DISC-PAC"

Due to a growing demand for Maxitorq Floating Discs, we now introduce the Maxitorq Disc-Pac . . . a self-contained unit independent of the actuator. Patented Maxitorq Separator Springs prevent heating in neutral . . . Locking Plate locks all discs onto body.

Thus you may build your own clutch (or brake) from our stock parts. Disc-Pac keys to shaft . . . easily replaced. Available in 8 diameters, 2" to 8", ¼ to 15 h.p. Disc-Pac fits Maxitorq Driving Rings, if you wish to use them. Write Dept. NE-4 for full specifications and prices.

THE CARLYLE JOHNSON MACHINE COMPANY
2CJ54 MANCHESTER, CONNECTICUT

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▲ For more details circle NED-688 D4 on enclosed inquiry slip ▲

View of FEEDRAIL-powered bridge crane and hoist at receiving department in the plant of a leading automotive manufacturer. By means of a system of interlocking bridges, runways and monorails, materials can be transported to and from any point in the building—with FEEDRAIL's trolley outlets traveling right along, providing SAFE, uninterrupted power.

when your cranes and hoists are powered by...

FEEDRAIL® Trolley Busways

There are no time-consuming, costly traffic hold-ups when shipping and receiving department cranes and hoists are powered by FEEDRAIL Trolley Busways. FEEDRAIL's expertly engineered design makes it a completely safe, trouble-free system of electric power distribution.

What's more—it's *adaptable*—first, because practically any place a crane or hoist can go in receiving, production, staging and shipping areas, FEEDRAIL will go—and, second, because an installation can be readily modified or expanded to meet the needs of changing requirements.

GET the whole eye-opening story of FEEDRAIL Trolley Busways by writing for complete descriptive literature. Address Dept. D-4.

SOLD BY MORE THAN 1,000 ELECTRICAL DISTRIBUTORS FROM COAST TO COAST

CH4-1A

ELECTRIC FEEDRAIL® *Never Becomes Obsolete*
FEEDRAIL CORPORATION
Subsidiary of Russell & Stoll Company, Inc.
125 BARCLAY STREET · NEW YORK 7, N. Y.
SPECIALLY QUALIFIED REPRESENTATIVES IN PRINCIPAL CITIES

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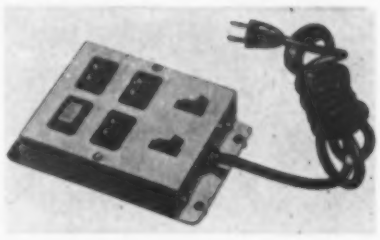
PORTABLE OUTLET BOX
with toggle switch controls



One "hot" and two toggle switch-controlled outlets are built into this portable outlet box, rated at 10 amp at 125 v ac-dc. A red signal light indicates when the unit is energized. The 18-gage steel case with four rubber feet is equipped with 6 ft of SJ No. 16 two-conductor rubber covered cord with molded rubber two-prong plug. Price is $8.30. Made by **Fostoria Pressed Steel Corp.**, 1240 Harris Rd., Fostoria, O.

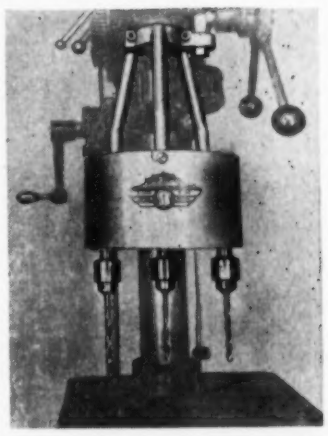
▲ For more details circle NED-690 D4 on enclosed inquiry slip ▲

SMALL HOLE DRILLING MACHINE
micrometer control locates holes

A micrometer control for positive location of holes in precision drilling of small units is extra feature offered for Hamilton sensitive small hole drilling machines. Equipment will locate one or a series of holes by this method, assuring accurate positioning from center-to-center. Machine shown is Maxi Jr model with drilling capacity of 0.004 to 0.3125-in. in all drillable materials. Clearance from center of chuck to column is 5 in. and from base to chuck, 10 in. Spindle speeds range from 750 to 8750 rpm. Made by **Hamilton Tool Co.**, 901 Hanover St., Hamilton, O.

▲ For more details circle NED-691 D4 on enclosed inquiry slip ▲

MULTIPLE DRILL HEAD
for use on ½-in. drill presses



Each of the three spindles on this multiple drill head attachment has a ¼-in. Jacobs chuck, two annular shielded ball bearing mountings and is driven by a ⅜-in. pitch roller chain. Device can be used for production drilling in metal, wood or plastic. It can be set up in 3 minutes on any ½-in. drill press with 1¾ to 2¼-in. quills. An infinite number of adjustments is possible on the three standard chucks within 3 to 5½-in. circles. Special large capacity units can be made to order. Made by **Silver-King Corp.**, Dept. PC, Aurora, Ill.

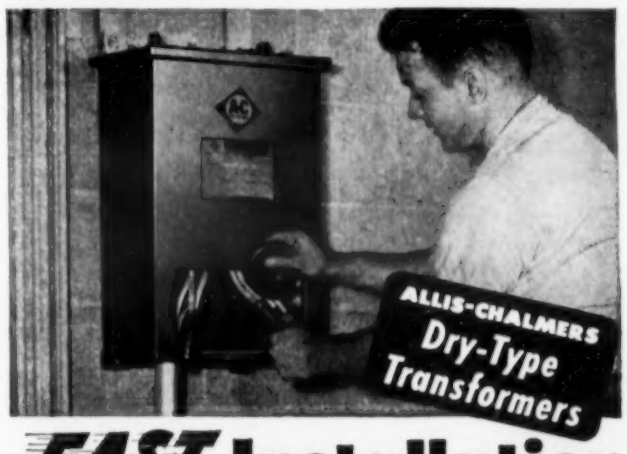
▲ For more details circle NED-692 D4 on enclosed inquiry slip ▲

CARBIDE TOOL GRINDER
is 6-in. dry type unit

Available as either bench or floor model, model D-6 dry carbide tool grinder is designed for 6-in. diameter cup wheels. Unit is equipped with exhaust type wheel guards for connection to dust collection system, and has screw in and outfeed tables which are readily set to any angle between 30 degrees above and below horizontal. A combination diamond dresser and protractor for table setting is provided. Safety cup disc prevents drawing in of tools or hands. Grinder is of twin table and wheel type and can be used by two operators at once. It is fitted with a ½-hp reversing motor with shaft braking. Light fixture, drip feed lubricant attachment and lubricant tray are optional accessories. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo 54F, Mich.

▲ For more details circle NED-693 D4 on enclosed inquiry slip ▲

▲ For more details circle NED-694 D4 on enclosed inquiry slip ▲



FAST Installation

Allis-Chalmers dry-type transformers can be installed fast because there is plenty of room to make connections. On single-phase units 10 kva and below (shown above) and three-phase units 15 kva and below, a removable plate at the bottom front of the case makes it easy to connect system cables.

On larger size units you can remove the top cover for equally fast access to connections. All sizes are light in weight, take little space. Mount them anywhere — no vaults are needed.

Get more information from your nearby A-C authorized distributor or district office. Or write Allis-Chalmers, Milwaukee 1, Wisconsin, for Bulletin 61B6382A.

A-4232

ALLIS-CHALMERS

▲ For more details circle NED-695 D4 on enclosed inquiry slip ▲

Kleenslot THE PERFECT PREPARATION SCREEN GUARD

The screen guard is built into the screen and the guard bars permit only the finer particles to pass over the screen. All sizes and most materials furnished.

HERE'S HOW IT'S DONE

Cross section at left shows how KLEENSLOT Screens operate on a non-clogging principle.

Wedge Wire KLEENSLOT screen guards can be furnished in special sizes to your requirements in practically any type of long wearing metal. They are made to close tolerances like all Wedge Wire products—the width of each wire is held to plus or minus .002 to insure uniform opening width. All Wedge Wire features are embodied in these screen guards and it is to your advantage to consider them from the standpoint that they are non-clogging, non-blinding, strong, rigid, uniform and more economical in the long run.

SEND THIS COUPON TODAY! • DON'T DELAY

WEDGE WIRE CORP.
Gas St. at Nickel Plate R.R., Wellington, Ohio
Gentlemen:
Please send us literature outlining the superiority of Wedge Wire construction.
COMPANY _____
NAME _____
ADDRESS _____

Wedge-Wire CORPORATION
GAS ST. AT NICKEL PLATE R.R. • WELLINGTON, OHIO

▲ For more details circle NED-696 D4 on enclosed inquiry slip ▲

METZGAR Floor-to-Floor CONVEYORS HAVE MANY USES

Easy to install standard O. A. widths — 18", 22", 30". Length as required. Top quality 3-ply 28 oz. duck with thick traction rubber top. Reversible direction of travel. 3-phase gearhead motor.

ASK OUR ENGINEERS FOR SPECIFIC SUGGESTIONS

METZGAR CONVEYOR CO.

416 Douglas N. W.

MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

GRAND RAPIDS 4, MICH.

For more details circle NED-697 D4 on enclosed inquiry slip

BOOTS BELLOWS • TUBES

ACUSHNET has developed rubber stocks with properties that permit sustained flexibility at unusually high or low temperatures, and high resistance to fluids, greases and gases. Our precision-molded boots, bellows and tubes give enduring protection to moving parts by excluding dirt, water, oil, etc.,—retaining grease, oil, fuel—or performing both functions at the same time over long periods of flexing.

Send For your copy of the Acushnet Rubber Data Handbook

Acushnet PROCESS COMPANY

All items are made to order

Address correspondence to 782 Belleville Ave., New Bedford, Mass.

For more details circle NED-698 D4 on enclosed inquiry slip

New *sealed* casters cut maintenance cost

Forget about caster lubrication — Bassick's new "3D" line virtually eliminates it with three outstanding design innovations:

Baffle ring on swivel bearing blocks dirt and water.

Grease retainer prevents loss of swivel lubrication.

Wheel bearing seal keeps dirt out, grease in.

"3D" sealed casters come in 5", 6" and 8" sizes, have fully case-hardened raceways, extra-strong king pin and double ball-bearing swivel. Write for catalog sheet 3D99-53. The Bassick Company, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Bassick A DIVISION OF STEWART SW WARNER

MAKING MORE KINDS OF CASTERS... MAKING CASTERS DO MORE

75 YEARS OF CASTER LEADERSHIP

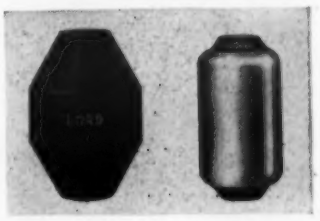
For more details circle NED-699 D4 on enclosed inquiry slip

GLOVE SELECTOR
shows right type for specific needs

Glance at this industrial glove selector shows the correct type for every industrial need by rating them according to their resistance to various kinds of destructive elements. The compact pocket-size slide chart shows how Surety Sureseal, standard synthetic and natural rubber gloves stand up against over 70 different kinds of acids, oils, solvents, chemicals, abrasives and natural elements. Information is based on laboratory tests of pressure needle and immersion type and extensive user experience. Made by **Surety Rubber Co.,** 226 Hall Ave., Carrollton, O.

For more details circle NED-700 D4 on enclosed inquiry slip

FLEXIBLE COUPLING
allows 7 degree misalignment



Rated torque of 200 lb-in. with 7-degree angular misalignment can be transmitted in uninterrupted service by flexible coupling designed for locomotive auxiliary generator drive. Torsional, axial, radial and angular motions are accommodated by bonded-rubber members. Coupling is made with elastomer securely bonded to steel inner member of individual joints. Arrangement of coupling elements in series allows soft torsional spring rate to provide isolation of torsional vibration. Length of coupling can be changed to afford required parallel misalignment for most efficient utilization of available space. Made by **Lord Mfg. Co.,** Dept. F, 1635 W. Twelfth St., Erie, Pa.

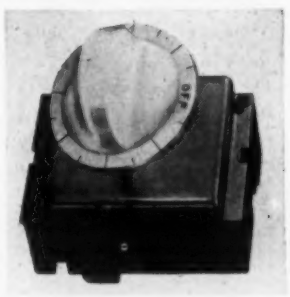
For more details circle NED-701 D4 on enclosed inquiry slip

TWO-WAY EYEGLASS LOUPE
fits metal or plastic spectacles

Either single or double lens models of this two-way eyeglass loupe can be used interchangeably on either metal or plastic spectacle frames. Loupe is designed for use by toolmakers, inspectors and workers on fine assembly and wiring operations, as well as by instrument makers. In single lens models, 3, 3.3, 4, 5 or 7X lens is obtainable. Double lens model provides alternative powers of 4 or 7X, depending on whether one or both lenses are used. When not in use, loupe swings out of eye range on spring pivot. Frame is finished in gold. Made by **Bausch & Lomb Optical Co.,** 727 St. Paul St., Rochester 2, N. Y.

For more details circle NED-702 D4 on enclosed inquiry slip

APPLIANCE CONTROL SWITCH
high initial current speeds heating



When the model 504 infinite control flasher switch on an electric range is turned to a desired input, the heating element is immediately boosted to the level selected at 5000 w. As the surface unit reaches the proper temperature, the switch automatically changes connections and sustains the selected input at 1250 w on 118 v. Unit also provides an infinite number of heat control settings ranging from about 75 w to maximum rated wattage. It contains both flashing and tripping circuits and is not subject to arc-over problems. Design is for 236 v operation. Switch is housed in heat-resistant Bakelite with a metal cover, bears UL approval and measures 3 x 2¼ x 1¾ in. Made by **Proctor Electric Co.,** 300 Hunting Park Ave., Philadelphia 40, Pa.

For more details circle NED-703 D4 on enclosed inquiry slip

NOW! CUT YOUR CURRENT COSTS... BOOST LAMP LIFE, WITH

LUSTRA GOLD-TONE FLUORESCENT STARTERS

YOU'LL MAKE BIG SAVINGS in the maintenance and operation of your fluorescent installations . . . with Lustra Gold-Tone Starters. These positive-action starters instantly cut out any lamp that begins to flicker or fail . . . prevent burn-outs . . . save wasted power.

Lustra Gold-Tone Fluorescent Starters come in Push-button Reset and Automatic Reset types—both guaranteed for two years of burning service. They are ideal companions for **Lustra Double Duty Fluorescent Lamps** which are famous for their better diffusion, color constancy, and *maintained* high light output . . . Write for full information. **Lustra Corporation, Dept. R-4, 36 Washington Street, Brooklyn 1, N. Y.**

Lustra AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

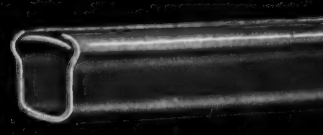
For more details circle NED-704 D4 on enclosed inquiry slip

TRIP-PROOF overfloor power lines with **PANCAKE**

Carries power or communication lines safely overfloor anywhere in your plant. These strong, galvanized steel raceways hug your floors — trucks and feet can easily pass over them. Two interconnecting sizes meet every requirement. Write today for the PANCAKE booklet.

WIREMOLD makes your plant production **MORE EFFICIENT!**

WIREMOLD one-piece construction **makes wiring EASIER**



Carry wiring safely on the surface, anywhere in your plant! Sturdy steel raceways, in four sizes to meet every wiring requirement — readily adaptable to any wiring layout. For new wiring, or extending existing circuits. Write for full information.

WIREMOLD products are backed by a firm guarantee. See page 7 of Wiremold Catalog No. 19.

The WIREMOLD Company
HARTFORD 10, CONNECTICUT

For more details circle NED-705 D4 on enclosed inquiry slip

New!..Simplified!..Smaller!

ELECTRONIC NON-SYNCHRONOUS WELDER CONTROL

• for WALL or MACHINE MOUNTING •

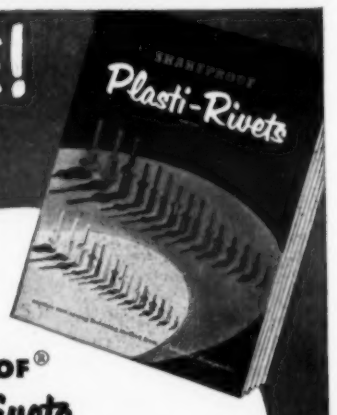
Write for BULLETIN 8992

Address Square D Company
4041 North Richards Street
Milwaukee 12, Wisconsin

SQUARE D COMPANY

▲ For more details circle NED-706 D4 on enclosed inquiry slip ▲

FREE! BOOKLET AND SAMPLES



LEARN HOW SHAKEPROOF® Plasti-Rivets CUT ASSEMBLY COSTS!

These ingenious new plastic fastenings drive from one side—simplify blind fastening problems—resist vibration loosening and corrosion. Available in a wide variety of thermo-plastic materials, in a wide choice of colors, sizes and standard or special types.

Send for FREE Testing Samples to-day!

SHAKEPROOF
"Fastening Headquarters"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois
Offices in principal cities

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RING A BELL
LIGHT A LIGHT
STOP or START a MACHINE

C·O·U·N·T·S ELECTRICALLY

DURANT Electric 'SP' PREDETERMINED COUNTER

(COUNTS ELECTRICALLY and CLOSES SWITCH AT END OF PRE-SET COUNT)
Eliminates costly over-runs or time consuming under-runs. Actuated by Photo Electric Cell, Tube, Relay, or Contact Switch. Counter can be located where desired. Predetermined count may be set at any figure to 99,999. Hundreds of applications in all phases of production and instrument work.

SMALL • COMPACT • RUGGED • FAST • ACCURATE

Send for Catalog No. 502

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
122 S. Water St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS 75th ANNIVERSARY
Count Everything

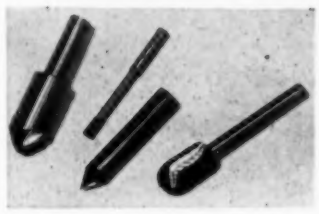
▲ For more details circle NED-708 D4 on enclosed inquiry slip ▲

ENGRAVING PEN
marks hard or soft metals

Designed to permit engraving any metal from gold and silver to tungsten carbide, Actograp engraving pen has screw adjustment for governing depth and width of cut. It operates by a magnetic vibrating system with 2 to 7-v current from a 100-110, 200-220 or 230-250 v ac transformer. Writing point can be resharpened by a smooth file or by grinding. All cable and other fittings are furnished. Distributed by **Newage International, Inc.**, 235 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-709 D4 on enclosed inquiry slip ▲

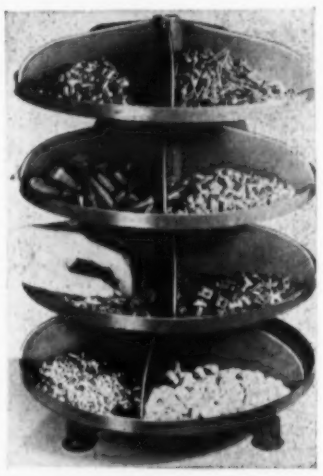
COUNTERSINKS, CENTER LAPS, BURRS
made of high-speed steel or carbide



Chatterless countersinks, carbide center laps, carbide burrs and internal grinding burrs comprise line of newly introduced metalworking tools. Countersinks are designed in both high-speed steel or carbide to take heavy cuts and produce smooth seats. Fast shearing cuts are made possible by new teeth arrangements. Center laps can replace mounted points for lapping centers in metal parts after hardening of steel. Burrs are now replacing mounted points and internal grinding wheels because of smooth finish they produce. Made by **Heller Brothers Co.**, Heller Dr. N.E., Newcomerstown, O.

▲ For more details circle NED-710 D4 on enclosed inquiry slip ▲

REVOLVING PARTS BIN
made with three and four tiers

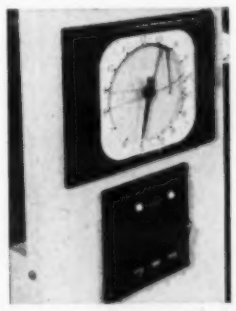


Heavy welded steel Spin-A-Bin revolving parts bins are made in a four-tier size with 20 divided sections and a three-tier size with 15 divided sections. Larger unit weighs 10 lb and measures 18¼ in. high and 12½ in. diameter. Small unit weighs 9 lb and is 14¼ in. high and 12½ in. diameter. Revolving mechanism operates on ball bearings. Made by **Walker Bag Co.**, Dept. NED, 1505 Broadway, Cleveland, O.

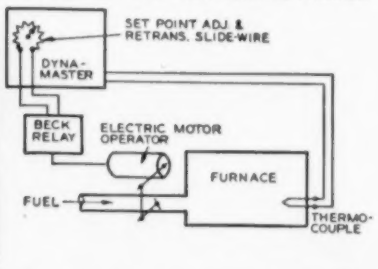
▲ For more details circle NED-711 D4 on enclosed inquiry slip ▲

OVEN & HEATING CONTROLS
packaged type for many requirement

Complete control packages individually designed for specific furnace, oven, kiln and dryer applications are available in ten different types to facilitate selection of a system exactly meeting requirements. They are designed to operate on-off or proportional fuel valves or electrical contacts, in a variety of control systems, including proportional, proportional-input, on-off or time-program. Automatic reset is also available. They include all components necessary for installation, including instruments, sensing elements, control valves, combustion safeguards and panels. Made by **Bristol Co.**, 30 Bristol Rd., Waterbury 20, Conn.



TYPICAL BRISTOL-BECK CONTROL PACKAGE



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STOP CORROSION NOW
with
PITT CHEM Tar Base Coatings

Corrosion eats away at your investment in plant and equipment and costs you thousands of dollars in maintenance and replacement expenses every year. Stop it now with Pitt Chem Tar Base Coatings. They resist mineral acids, alkalis, vapors and moisture, and last for years under conditions that would cause ordinary paints to fail in months. Here's why:

★ They're up to ten times as thick as ordinary paints.
★ They're made from tough, durable coal tar pitch.
★ They are economical and easy to apply.
★ They can be applied to metal or concrete.

We'll gladly send you a free booklet telling how, where and when to apply Pitt Chem Coatings economically. Write for your copy . . . *today.*

W&D 5014

PROTECTIVE COATINGS DIVISION
PITTSBURGH COKE & CHEMICAL CO.
GRANT BLDG., PITTSBURGH 19, PA.

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MIX FLUIDS
in any tank or container

Get rapid, thorough mixing in any open vessel—with a LIGHTNIN Portable Mixer.

It clamps in place. You can adjust it immediately to the correct angle. It mixes completely and uniformly, by causing rapid top-to-bottom turnover, plus rotation of tank contents. No baffles necessary.

Do these mixing jobs—fast

Get just the kind of action you want with a LIGHTNIN. Vigorous mixing, or gentle blending. Beat, stir, circulate fluids. Disperse gases in liquids. Wash, dissolve, suspend solids . . . quickly, uniformly.

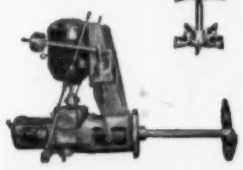
Fully guaranteed to do an efficient mixing job for you, or your money back. Thousands in use everywhere. Many in service over 20 years.

Thirty portable models to choose from—⅛ to 3 HP. Electric and air motor types. Direct or gear drive.

Send today for illustrated Catalog B-108 and prices.

RAPID, UNIFORM MIXING
Mounted at off-center angle, LIGHTNIN turns tank contents over and over, while rotating them around and around.

FOR BIG MIXING JOBS
Turbine and paddle mixers for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.



FOR VERY LARGE TANKS
Side entering propeller mixers. Sizes 1 to 25 HP. Send for Catalog B-103.

Lightnin® Mixers

MIXING EQUIPMENT Co., Inc.
165 Mt. Read Blvd., Rochester 11, N. Y.
In Canada: William & J. G. Greey, Ltd., 100 Miranda Avenue, Toronto 10, Ont.

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MEYERCORD *Nameplate* DECALS *Laboratory Engineered* FOR EVERY SURFACE AND FINISH

Meyercord Decal Engineers and Designers Can Help You Lick that Tough Problem

If you want to ADVERTISE . . . INSTRUCT . . . or IDENTIFY on any surface from smooth, non-porous plastics to rough, pebbly materials, Meyercord engineers will come up with the answer in a hurry. We dipped into our recent orders and highlight below a few "case histories" where Meyercord Decals have been engineered for extremely difficult conditions:

AIRCRAFT INDUSTRY—Meyercord engineers developed a special identification decal for jet aircraft capable of withstanding temperatures to 900° as well as the effects of aeromatic fuels and hydraulic fluids.

ELECTRONICS INDUSTRY—A leading electronics manufacturer required a schematic diagram which could be folded compactly and placed inside communication sets. Meyercord solved the problem with a special decal applied to nylon fabric under heat and pressure.

HOME APPLIANCES—Meyercord engineers developed a new type of open-letter decal providing high color and dramatic effect—at less than one third the cost of discarded metal name plates.

MEYERCORD DECAL NAMEPLATE MANUAL and Full Information FREE

Meyercord "Mark-it" Manual shows hundreds of uses for durable, washable, decal nameplates . . . as trade marks, instructions, charts or diagrams . . . This manual is FREE . . . but request it on company letterhead, please.

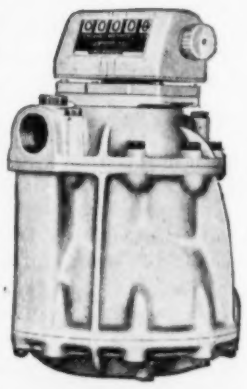
THE MEYERCORD CO. *World's Largest Decalcomania Manufacturers* DEPT. S-316 5323 WEST LAKE ST. CHICAGO 44, ILLINOIS

▲ For more details circle **NED-715 D4** on enclosed inquiry slip ▲

the standard of accuracy . . .

BOWSER XACTO

. . . the World's most widely used meters!



For over a quarter century Xacto meters have brought to industry after industry an entirely new and effective way to measure liquids accurately and dependably.

•

Xacto meters accurately measure and safely handle more than 662 different liquids in processing, blending, packaging and many other operations.

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There is no substitute for Bowser Xacto meters for checking incoming deliveries, transferring, batching or recording consumption.

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BOWSER, INC. 1381 CREIGHTON AVENUE FORT WAYNE 2, INDIANA

BOWSER REGIONAL OFFICES

Atlanta • Chicago • Cleveland • Dallas • Kansas City
New York • San Francisco • Washington, D. C. • Hamilton, Ont.

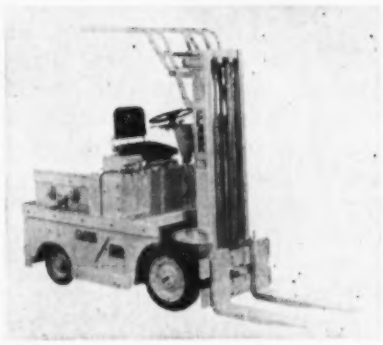
▲ For more details circle **NED-716 D4** on enclosed inquiry slip ▲

PORTABLE ALL-PURPOSE CLEANER
straps to back for free movement

Operator moves about freely when using this Strapavac all-purpose, vacuum cleaner since unit straps to the back for true portability. Wide variety of attachments is available for use on floors, carpets, walls, venetian blinds, stairs, furniture, furnaces as well as wet pickup operations. When used for furnace or heavy dust cleaning, cleaner is used with special rubber cushioned cover. Flameproof filter fits on air-tight ash barrel. For wet pickup, machine is used with float valve which automatically shuts off water intake when water reaches height of float valve. Either 14 or 18-in. squeegees and drum with casters are available. For carpets, beater-type brush or straight suction attachments are used. Made by **M. D. Stetson Co.,** Dept. NED-454, 64 E. Brookline St., Boston 18, Mass.

▲ For more details circle **NED-717 D4** on enclosed inquiry slip ▲

ELECTRIC FORK TRUCKS
feature Underwriters' approval



Approved by Underwriters' Laboratories for operation in hazardous areas covered by Class I, Group D classification, electric Carloader series fork trucks have capacities from 3000 to 5000 lb. They can be used safely in atmospheres containing such explosive vapors as gasoline, naphtha, benzene, butane, acetone, lacquer solvents and natural gas. Explosionproof design features these modifications: special frame and totally-enclosed explosionproof panel, master switch and resistor, limit switches for seat brake, foot brake, hydraulic control valves, pump motor and drive motor, static-conductive cushion tires and explosionproof plugs. Made by **Clark Equipment Co.,** 1952 Arze St., Battle Creek, Mich.

▲ For more details circle **NED-718 D4** on enclosed inquiry slip ▲

MAINTENANCE ASSORTMENT
of hydraulic Porto-Power equipment

Complete line of remotely-controlled hydraulic jacks and attachments for pulling gears, moving machinery and other jobs is contained in 46-piece maintenance assortment of hydraulic Porto-Power equipment. One hydraulic pump with swivel-connected Spee-D-Coupler serves the four hydraulic rams in the set. Midget 4-ton ram lifts from low of 1 11/16 in. Included are a 7-ton short ram, a general purpose 10-ton ram and heavy-duty 20-ton unit. Forty-one attachments adapt rams to variety of pushing, pulling, lifting, clamping, spreading, bending and pressing jobs. Assortment also includes new Lock-On tubing, connectors and adaptors. Wooden carrying case is furnished. Offered by **Blackhawk Mfg. Co.,** P. O. Box 613, Milwaukee 46, Wis.

▲ For more details circle **NED-719 D4** on enclosed inquiry slip ▲

Flexible Couplings

Lovejoy Flexible Coupling Co.—20-page illustrated catalog 1009 contains detailed data on extensive line of flexible couplings with ratings from fractional to over 800 hp. Dimensional drawings, specifications and general information for each type and size are given. Varying or pulsating load conversion and horsepower-to-torque conversion tables are included.

▲ For more details circle **NED-720 D4** on enclosed inquiry slip ▲

Write for Catalog 700

External Adjustments No Tools Required

MERCOID® PRESSURE CONTROLS

Ranges Available from 30" Vac. to 2,500 PSI. Fully Adjustable as to Range and Sensitivity. Bourdon Tube Operated —Visible Calibrated Dial. Mercoid Sealed Mercury Contact —Immune to Dust-Dirt-Grease-Corrosion-Pitting-Sticking.

THE MERCOID CORPORATION 4201 BELMONT AVENUE, CHICAGO 41, ILLINOIS

▲ For more details circle **NED-721 D4** on enclosed inquiry slip ▲

PREVENT BURNS!

SWIVELIER *Adjustable* COOLITES STAY COOL Using 100-Watt Lamp

"NEVER GETS TOO HOT TO HANDLE"

FOR USE ON:
- lathes
- millers
- drill presses
- other machine tools
- assembly benches
- inspection tables
- desks
- drafting boards
- business machines

UNIVERSALLY ADJUSTABLE

• ALL WIRES ENCLOSED

• For full details on Coolites, fluorescent and incandescent "Dextra-Lites" and other fine Swivelier Industrial Lighting Units

Write: Dept. NE4 for Bulletin 134.

TRADEMARK

SWIVELIER COMPANY, Inc. 43—34th St., Brooklyn 32, N. Y. Showroom: 30 Irving Place, New York, N. Y.

▲ For more details circle **NED-722 D4** on enclosed inquiry slip ▲

Now you can have as many as 9 unit weights—each equivalent to the dial—in the new Toledo cabinet heads! This means a dial as low as one-tenth total capacity of scale can provide wide indicator travel on small loads, without sacrificing high total capacity for the scale. A convenient rotary control operates the unit weights—no lever to lift. Available in heavy-duty floor, built-in, hopper, monorail, motor truck and other types.

Many more new features in great new line of Industrial Toledos . . . 44 ways better! Send for new catalog. Toledo Scale Co., Toledo 1, Ohio.

TOLEDO®
HEADQUARTERS FOR SCALES

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WIRE MESH

Jelliff

Specializing in the non-ferrous metals in counts to 200 x 200 or 50 x 750 and widths up to 48" in all commercial weaves

IN MESH WITH INDUSTRY

Since 1880

address your enquiries to Department 11

The C. O. JELLIFF MFG. CORP.
SOUTHPORT • CONNECTICUT • USA

WIRE PRODUCTS Jelliff SINCE - 1880

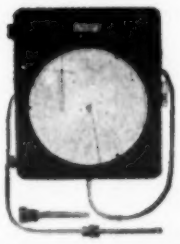
For more details circle NED-724 D4 on enclosed inquiry slip

PALMER TEMPERATURE INDICATING INSTRUMENTS

MERCURY ACTUATED

4½" DIAL THERMOMETERS

Made in 3 types to suit any requirements. Rigid stem, wall or flush mounted, 11 inches of scale reading. Interchangeable with standard industrial separable sockets. Stem can be placed at any angle and case can be rotated to any readable position.



RECORDING THERMOMETERS

Twelve inch die-cast aluminum case with black or white wrinkle or satin finish. Single or multiple pen construction. Electric or spring wound clock, 24 hour or 7 Day Revolution. Flexible Armor and bulb of stainless steel. Ranges—40+950°F. or Equivalent in °C.

INDUSTRIAL THERMOMETERS

Red-Reading Mercury—Extruded brass case — chrome finish. Ranges —40+950°F or Equivalent in °C.

RED-READING MERCURY LABORATORY THERMOMETERS

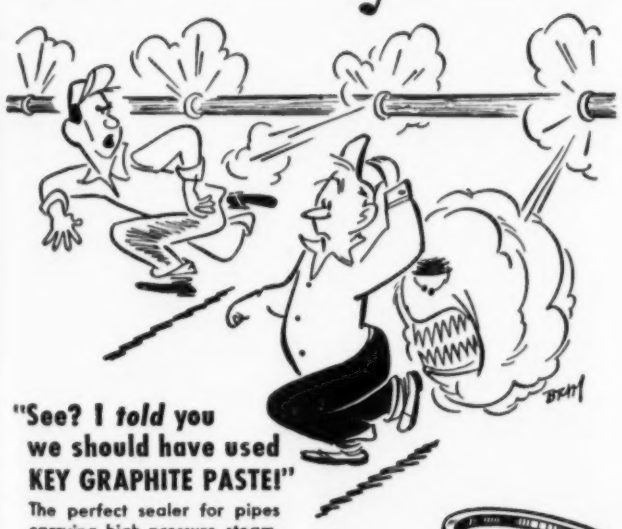
Thoroughly annealed for permanent accuracy. Complete line A. S. T. M. and fractional division types.

FOR COMPLETE INFORMATION WRITE FOR CATALOG 200 G

PALMER THERMOMETERS, INC., Cincinnati 12, Ohio

For more details circle NED-725 D4 on enclosed inquiry slip

KEYNOTES



"See? I *told* you we should have used KEY GRAPHITE PASTE!"

The perfect sealer for pipes carrying high-pressure steam, gas or oil.

Write for FREE sample

SEALS TIGHT... BREAKS RIGHT!

A Product of KEY COMPANY

2601 McCasland • East St. Louis, Ill.

For more details circle NED-726 D4 on enclosed inquiry slip

CAM CLUTCHES
one-way type for machine drives are available in seven sizes

Line of cam type one-way clutch units is designed to serve as backstop (antirotation), indexing and overrunning clutches in a variety of machine drives. The 200 series devices are made with outside dimensions and tolerances corresponding to seven sizes of standard 200 series ball bearings. Clutch, as shown, has no inner race, the full complement of cams bearing directly on a hardened shaft surface.

Rotation of the shaft on which the cams bear is permitted in one direction only. As an indexing unit, cam clutches act as self-contained ratchets which engage instantly when torque is applied and disengage when torque ceases. Clutches fit bores from 1½ to 3½ in. and are from 1 to 1¼ in. long. Free wheeling speed without excessive temperature rise is up to 2000 rpm. Torque ratings, when used as backstop unit, are from 30 to 500 lb-ft. Made by **Morse Chain Co.,** Dept. ND, 7601 Central Ave., Detroit 10, Mich.

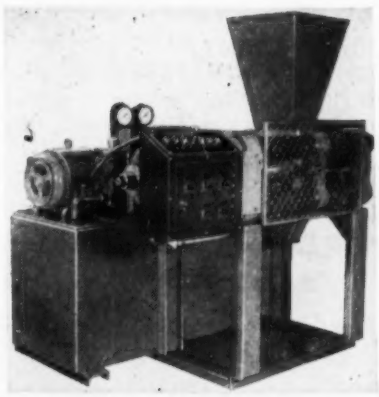
For more details circle NED-727 D4 on enclosed inquiry slip

VINYL PLASTIC GLOVES
resist acids, alkalies and resins

Protection of worker's hands against acids, alkalies and resins encountered in plastic potting operations is afforded by Hyflex No. 340 all-vinyl plastic gloves which are molded from unsupported polyvinyl film. Gloves allow complete individual finger freedom in potting of miniature assemblies and fabricating of plastic laminate layups where resins being used would not adhere. They are adversely affected only by limited number of solvents. Range of sizes for both men and women is available. Made by **Houghton Laboratories, Inc.,** Special Products Div., Dept. J-100, 333 Bush St., Olean, N. Y.

For more details circle NED-728 D4 on enclosed inquiry slip

HYDRAULIC PREFORMING PRESS
designed for use in plastics industry



Hydraulic preforming machine designed for plastics industry is provided with selective pressure range on the single or multiple cavity die ranging from 0 to 125 tons. Preforms up to 25 sq in., 1¾-in. thick and weighing up to 1¾ lb can be handled. Unit features electronic control system for fully automatic operation. Safety controls prevent damage from double stroking. Weight and thickness of pills or preforms can be controlled to within ½-per cent. Horizontal design permits gravity feeding and discharge. Operation is practically dust-free, and moving parts and the control panel are fully enclosed. Made by **Logan Engineering Co.,** 4904 W. Lawrence Ave., Chicago 30, Ill.

For more details circle NED-729 D4 on enclosed inquiry slip

Measuring Flow & Liquid Level

Minneapolis-Honeywell Regulator Co., Industrial Div.—Dozen different Honeywell systems for measuring and controlling liquid level are described and illustrated in 24-page bulletin 1160. Sections on measurement, transmission and control and handling of difficult liquids are included.

For more details circle NED-730 D4 on enclosed inquiry slip

Nicholson Steam Traps

STOP AIR BINDING, Raise temperature 35°

Equipment temperatures were up 30° to 40° higher after Nicholsons replaced mechanical traps in his plant, according to Chief Engineer H. F. D. He also reports faster warm-up, stating that all air-binding was relieved. And "saving in steam waste cut our fuel cost at least 10%". 5 types for process, heat, power. Sizes, ¼" to 2"; press. to 250 lbs. To see why leading plants are increasingly standardizing on Nicholson traps send for . . .

BULLETIN 853

162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.

TRAPS · VALVES · FLOATS

For more details circle NED-731 D4 on enclosed inquiry slip

Choose the hoist that fits the job!

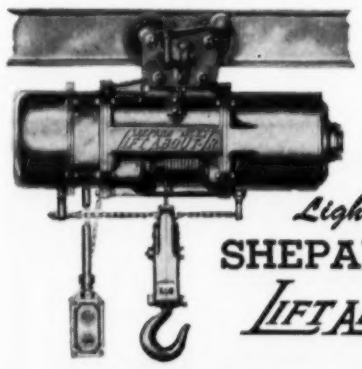
Heavy Duty

SHEPARD NILES Hoist

Types: Lug Suspension, Hook Suspension, Base Type, Push Trolley, Geared Trolley, Motor-driven Trolley.
Controls: Pendant Rope, Push Button, Outrig, Remote.
Speeds: To meet your requirements.

Capacities: 500 to 40,000 lbs.

● It pays to choose the right hoist for your lifting job . . . the wrong choice can be costly! Let a Shepard Niles representative guide you in selecting the hoist that best suits your needs. He's a specialist in through-the-air handling . . . knows which model, capacity and controls will be right for your use.



Light Service

SHEPARD NILES LIFT ABOUT-JR.

Types: Lug Suspension, Hook Suspension, Push Trolley.
Controls: Single Speed, Push Button, Rope Operated.
Capacities: 250, 500, 1000, 2000 lbs.

CRANES: Capacity 1-450 Tons

HOISTS: Capacity 1-20 Tons

SHEPARD NILES CRANE AND HOIST CORPORATION

MAIL COUPON

SHEPARD NILES Crane and Hoist Corp.
1836 Schuyler Ave., Montour Falls, N.Y.

( ) *Please send me your new Lift About-Jr. Bulletin.*
( ) *Please send me your Shepard Niles Hoist Bulletin.*
( ) *Have a Shepard Niles representative call on me.*

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

For more details circle NED-732 D4 on enclosed inquiry slip

NOW . . . an Irvington Plastic Insulating TAPE with the heat-and oil-resistance of Temflex 105 TUBING

Here is a new plastic insulating tape based on the same formula that has made Temflex 105 Tubing the leader where service calls for continuous operation in air at 105° C.—or in oil at 90° C.

Temflex 105 Tape is strong and flexible, possesses exceptional elongation—can be easily hand wrapped or applied by taping heads over bus bars, coils, cables, irregular surfaces. Made in thicknesses of .007", .010" and .012"; widths from ½" to 34".

You probably know about Temflex 105 Tubing—now write for the facts on Temflex 105 Tape.

LOOK TO IRVINGTON FOR INSULATION LEADERSHIP

IRVINGTON VARNISH & INSULATOR
DIV. OF MINNESOTA MINING & MFG. CO.
14 ARGYLE TERRACE, IRVINGTON 11, N. J.

Plants: Irvington, N. J.; Monrovia, Calif.; Hamilton, Ontario, Canada

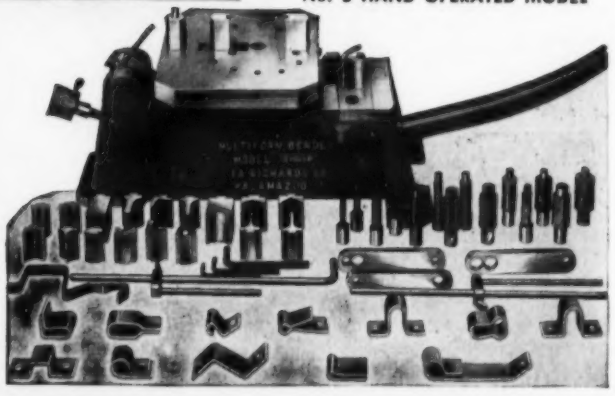
▲ For more details circle NED-733 D4 on enclosed inquiry slip ▲

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling—Saves Die Costs Saves on Expensive Presses

This efficient machine is useful in all lines of trade, spring plants, radio and electrical equipment manufacturers. Complete with tooling, for bending material up to ⅛" x 1½".

No. 5 HAND OPERATED MODEL



AIR OPERATED MODELS AVAILABLE IN THIS AND LARGER SIZES

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

▲ For more details circle NED-734 D4 on enclosed inquiry slip ▲

M&M GIANT KEYSEATERS

M & M Giant Keyseaters, built in a wide range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems today.

MITTS & MERRILL 68
1000 So. Water Street • SAGINAW, MICHIGAN

▲ For more details circle NED-735 D4 on enclosed inquiry slip ▲

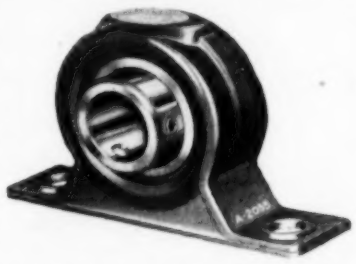
INFRARED HEAT LAMP operates at three wattages

Industrial drying, baking and heating are applications of this 1550-w infrared heat lamp which is equipped with three separate filaments. It can be operated at 650, 900 and 1550 w, with maximum voltage being 236. Lamp is made of Vycor glass for resistance to thermal shock and spattering liquids during operation. Built-in gold reflector projects useful heat over an angle of about 120 degrees. Variation of spot temperatures is small. Made by **Sylvania Electric Products Inc.**, Dept. JPW, 1740 Broadway, New York 19, N. Y.

▲ For more details circle NED-736 D4 on enclosed inquiry slip ▲

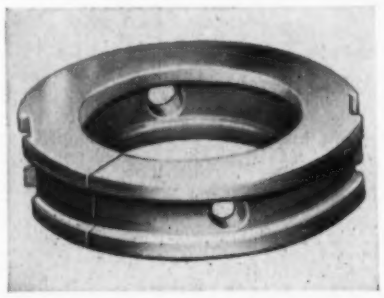
BALL BEARING UNITS available in rubber mountings

Noise and vibrations in Sealmaster ball bearings are minimized by rubber mountings in pressed steel housings. Six shaft sizes from ½ to 1 in. are available as pillow blocks, flange and cartridge units. They are adaptable for use on air conditioning equipment and other light duty applications. Synthetic rubber mounting rings are oil and grease resistant and bearings are factory lubricated for life. Ball path section of inner race ring is zone hardened. Bearing units are grounded to the housing to prevent build-up of static charge. Made by **Stephens-Adamson Mfg. Co.**, Sealmaster Div., 12 Ridgeway Ave., Aurora, Ill.



▲ For more details circle NED-737 D4 on enclosed inquiry slip ▲

SEAL CAGE for use with stuffing boxes



Chempro seal cages are machined in one piece and can be easily snapped over the shaft on various types of processing equipment without dismantling the pump or pulling the shaft. For use with stuffing boxes on pumps, mixers and reactors, the flexible Teflon seal cage will not score the shaft, even during high speed operation. No bending or collapsing is experienced under extreme gland pressure. Cage is available in standard or special sizes to fit any pump, mixer or agitator. Made by **Chemical & Power Products, Inc.**, Dept. ND-1, 11 Broadway, Room 1001, New York 9, N. Y.

▲ For more details circle NED-738 D4 on enclosed inquiry slip ▲

PORTABLE AIR COMPRESSOR developed for spray painting

Designed for commercial and industrial painting and maintenance work, model 505 portable compressor unit operates from 115-v ac lines and delivers over 5 cfm air at 40 psi for standard low pressure nozzles and guns. Single cylinder compressor is directly driven by a ¾-hp motor and has a tamperproof automatic unloader, safety valve and thermal cutout electric switch. There are no exposed moving parts. A kick bar prevents upsetting and provides a storage rack for hose and the 20-ft length of No. 12 electric cable. Unit weighs 160 lb and has semipneumatic wheels and a pull handle. Made by **Eclipse Air Brush Co.**, 421 Park Ave., Newark 7, N. J.

▲ For more details circle NED-739 D4 on enclosed inquiry slip ▲

Eliminate Shipping Labels!

PRINT DIRECT

Speeds Up Freight Marking

Quick! Accurate! Easy! Print shipping information direct on cartons, boxes, packages. Eliminate double operation of preparing labels and then pasting them to the containers. Get 1,000 or more clear, sharp impressions from one stencil without re-inking. New FORM-CUT® Stencil has facsimile of your label or shipping form die-impressed into the stencil. Then type or write in address or identification data . . . attach to duplicator . . . and print, like using a rubber stamp. Write for Literature and FREE SAMPLE FORM-CUT STENCIL AND PRINT.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

Also for addressing shipping tags and labels . . . prints postcards, menus, forms, bulletins. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). At office or shipping room supply dealers.

OVER 30 YEARS **MULTISTAMP** STENCIL DUPLICATOR ®
MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

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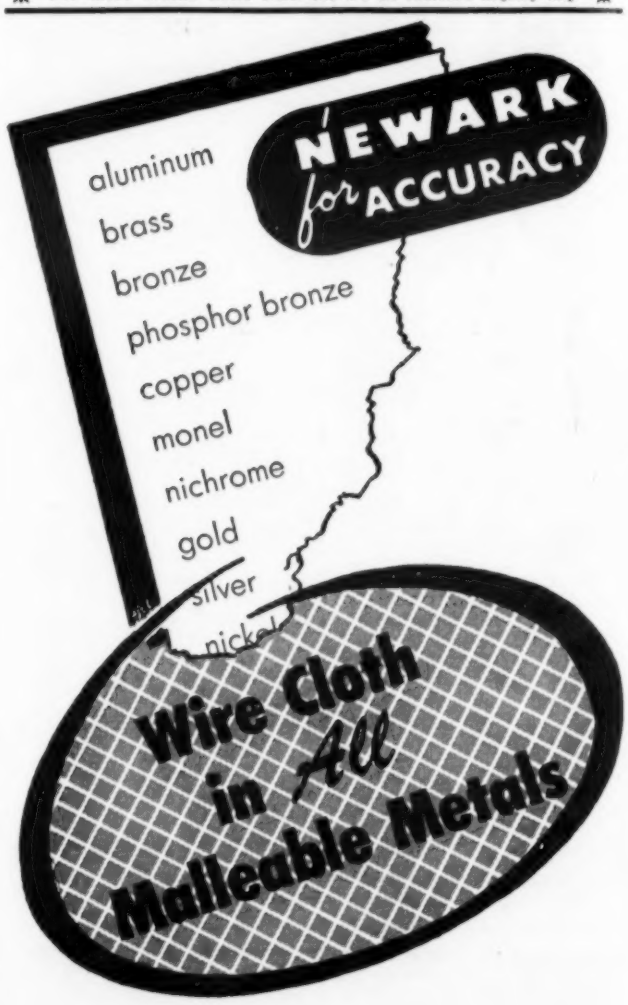

Newark Wire Cloth is made of *all* malleable metals such as aluminum, brass, bronze, phosphor bronze, copper, monel, Nichrome, nickel and stainless steel; as well as the noble metals such as gold, silver, platinum, etc.

This wide range of metals enables you to select the one wire cloth to meet your conditions of corrosion and/or contamination.

In all metals, Newark Wire Cloth is accurately woven in a wide range of meshes, ranging from very coarse (4 inch space cloth), to extremely fine (up to 400 mesh). Our reputation for 'Accuracy' through more than 75 years is your guarantee of wire cloth quality.

We maintain a large stock of popular sizes in the more commonly used metals and can make prompt shipment. Let us quote on your requirements.

Send for our New Catalog E.

Newark Wire Cloth COMPANY
351 VERONA AVENUE • NEWARK 4, NEW JERSEY

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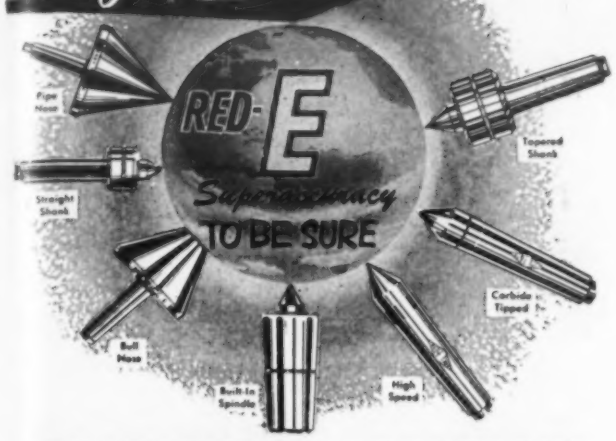
Your ONE source for ALL centers!



GUARANTEED ACCURACY!
REPLACE WITH RED-E and be SURE!

RED-E offers the advantage of over 45 years of design, engineering and manufacturing experience. Only RED-E can serve your every Center requirement — regardless of size, taper, shank, style — and still GUARANTEE ACCURACY!

Let us recommend a Center to fit your need.

CENTER Specialists since 1908
RED-E TOOL READY TOOL COMPANY
561 Iranistan Ave. Bridgeport 5, Conn.

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Here's a CONVEYOR BELT that HOT GREASE CAN'T HURT!

Buffalo's solid woven cotton belt has been impregnated and coated with a tough plastic overcoat to produce PLASTEX. It won't crack or peel and it is impervious to hot greases, oils, acids, alkalies, moisture and temperatures from -20° to 200°F. Won't absorb or exude ANY odors. Easy to clean by any method, including live steam. Can you use this special belt in your business?

FREE 14 PAGE GUIDE TO Buying the Right Conveyor Belt for your Particular Job. Illustrated Uses, Maintenance Tips, Sizes, Prices.

BUFFALO WEAVING & BELTING COMPANY
209 CHANDLER STREET BUFFALO 7, NEW YORK
NEW YORK PHILADELPHIA CHICAGO DETROIT LOS ANGELES

▲ For more details circle NED-743 D4 on enclosed inquiry slip ▲

SAVE 85% Of Needless Washroom Expense

NEW, FASTER DRYING Sani-Dri Provides CLEAN, SANITARY SERVICE

SAVES TOWEL COSTS . . . SAVES MAINTENANCE

Save up to 85% of washroom costs with new, faster drying Sani-Dri hand and hair dryers. No buying and storing of paper towels . . . no monthly service fee for cloth towels. Sani-Dri reduces maintenance overhead and provides 24-hour, automatic drying with no clutter . . . no towel waste . . . no fire hazard. All models carry Underwriters seal and 2 year guarantee.

Only Sani-Dri—The Original Electric Dryer Offers So Many Exclusive Features!

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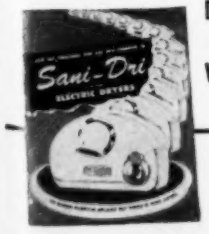
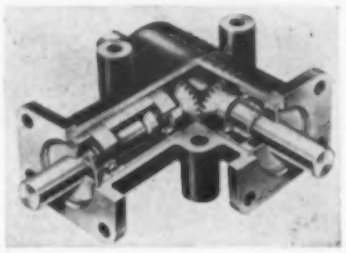
WRITE TODAY FOR NEW ILLUSTRATED FOLDER SHOWING COMPLETE LINE



Manufactured and Guaranteed By
THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
1944 Commonwealth Ave. No. Chicago, Ill.

▲ For more details circle NED-744 D4 on enclosed inquiry slip ▲

RIGHT ANGLE GEAR DRIVE
compact units with high capacity



Quieter, cooler operation and longer service life are result of substituting Coniflex bevel gears for straight tooth gears in Anglgear standardized right angle gear drives. Small, compact units with high load capacity are made in capacities of ⅓ and 1 hp. Both are suited for use in powered systems and for manual operation. They are ball bearing sealed units and are lubricated for life. Installation can be in any position and rated speed is 1800 rpm. Both are available in two-way or three-way styles. Smaller unit is rated at 250 in.-lb, or 500 in.-lb rating if extra capacity gears are used. The 1 hp unit is rated at 1500 in.-lb ultimate static torque capacity. Made by **Airborne Accessories Corp.**, Dept. 201, 25 Montgomery St., Hillside 5, N. J.

▲ For more details circle NED-745 D4 on enclosed inquiry slip ▲

MOBILE HOIST
working capacity is 5000 lb

One man can move this manual winch-equipped hoist, even when it is carrying a load. Hoist weighs 2000 lb and has a working capacity of 5000 lb. It utilizes a double - reeved cable, has a hook clearance of 22 ft and is built of tubular high carbon steel. Tests have shown that it can be towed, fully loaded, by a truck at 20 mph. Made up of seven components, the hoist can be assembled by untrained personnel in less than 2 hours. Two fixed dual wheel assemblies at front are 12-in. diameter and rear caster is 10 in. Latter rotates through 360 degrees and locks in position by moving towing handle upward. All casters have solid rubber tires. Made by **Safway Steel Products, Inc.**, 6224 W. State St., Milwaukee 13, Wis.

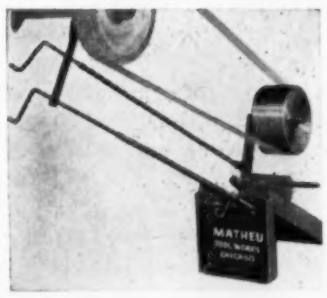
▲ For more details circle NED-746 D4 on enclosed inquiry slip ▲

MAGNETIC COOLANT SEPARATOR
uses nonelectric permanent magnets

Magnetic contaminants are effectively removed from all types of metalworking coolants by this magnetic coolant separator which utilizes Alnico nonelectric permanent magnets. Contaminants cling to drum surface of separator, forming brush-like clusters that sweep out many nonmagnetic particles as well. Clear coolant emerges from either of side outlets located near front of machine. Unit is designed for simple installation in existing lines. Made by **Dings Magnetic Separator Co.**, 4758 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-747 D4 on enclosed inquiry slip ▲

BACKSTAND IDLER
adjusts from operators position



Improved backstand idler for abrasive belt machining provides belt tension and tracking adjustment from operator's position. It is adaptable to belts from ¼ to 6-in. wide. Tracking adjustment moves the idler pulley from side to side to place minimum strain on the belt bond. Single motion tension release permits belt change rapidly. Idler pulley is balanced and is fitted with grease sealed heavy duty ball bearings. Front and rear mounting slots 8-in. long are provided for rapid installation and alignment. Made by **Matheu Tool Works**, 2426 N. Clybourn Ave., Chicago 14, Ill.

▲ For more details circle NED-748 D4 on enclosed inquiry slip ▲

Break Loading Bottlenecks! With MagLiner MAGNESIUM DOCK BOARDS

Magnesium Light!
Magnesium Strong!
Magnesium Safe!

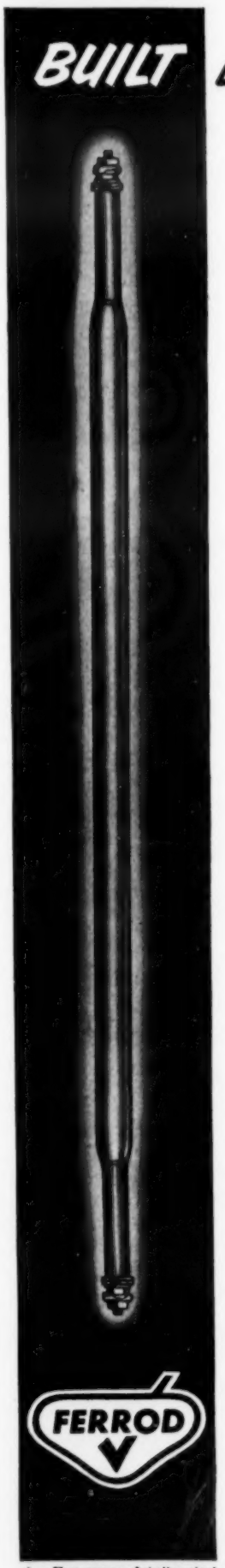
Write today for your copy of Magliner Bulletin DB-204

Have you considered the advantages of equipping your docks with Magliner magnesium dock boards? Are you aware of the many benefits awaiting you? *Reduced loading costs! Easier handling! Greater speed and efficiency in shipping-receiving operations!* In the case illustrated above, the manufacturer took positive steps to insure against the penalty of loading bottlenecks . . . he investigated and installed Magliner magnesium dock boards! What about you? It costs nothing to get the facts! It can keep you steps ahead of the competition!

MAGLINE, INC.
P. O. BOX 396 PINCONNING, MICH.

▲ For more details circle NED-749 D4 on enclosed inquiry slip ▲

BUILT LIKE A STEEL GIRDER!



FERROD'S NEW
HEAVY-DUTY
STRIP HEATERS

If you use electrical heating in any form, you'll be interested in this new development. Formed like a modified "T"-beam, the broad flat heating surface is kept flat by a rigid reinforcing "spine" up the back.

•

Available with *mild steel* or *Inconel* sheath, these units cover a wide range of applications, the *Inconel* being particularly corrosion resistant and operating at sheath temperatures up to 1500° F.

•

As in other Ferrod *rod-type* heaters, the nickel chromium resistor elements are precisely located, insulated with magnesium oxide, then flattened under tremendous pressure.

•

Over-all heater width of ⅝" gives fast response in heating, also permits close control of temperatures where required.

•

Made in capacities of 150 to 2500 watts with steel sheath —and from 350 to 5000 watts with *Inconel* sheath—Ferrod HD Strip Heaters can be safely operated in series on supply voltages of 480 volts.

•

For further details and complete specifications on standard units quickly available, write

FERROD MFG. CO.
607 N. River St.
Batavia, Illinois

Subsidiary FERRO Corporation

▲ For more details circle NED-750 D4 on enclosed inquiry slip ▲

DO YOU KNOW THESE FACTS ABOUT PRE-FINISHING?

Know how to keep your finishing process from becoming outdated? Switch to prefinished ENAMELSTRIP. A few facts about this pioneer process will show you it pays to finish the modern, ENAMELSTRIP way:

- Coats and colors metal before fabricating.
- Eliminates costly operations.
- Comes precision-slit to your specifications in a choice of metals.
- Non-anodized organic finish, withstands all Fabricating stresses.
- Finished in one, or two colors (one on each side).

GET ALL THE FACTS ON ENAMELSTRIP in our new *full-color bulletin.* Send for yours today.

THE COATED COIL CORPORATION
507 West 30th Street, New York 1 • LOngacre 5-3161

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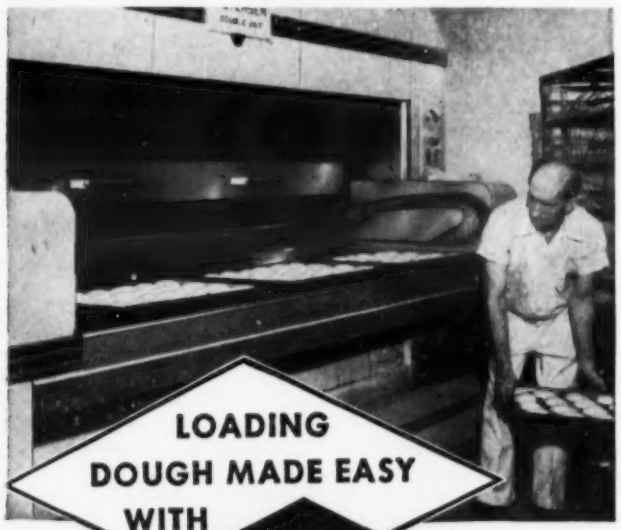
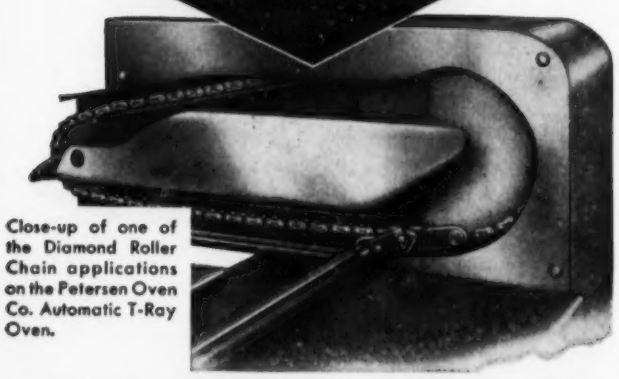


LOADING DOUGH MADE EASY WITH

DIAMOND ROLLER CHAINS



Close-up of one of the Diamond Roller Chain applications on the Petersen Oven Co. Automatic T-Ray Oven.

Moving bread trays automatically into Petersen ovens is easily accomplished by a bar connected at either end to a Diamond Roller Chain Drive which in turn is driven from below by Diamond Chains.

As the trays are placed on the platform, the bar travels around and moves them into the oven for baking. The bar then rides up and over in a period cycle to allow for placing the next set of trays carrying the dough.

Here again the uniform quality and long-lasting reliability of Diamond Chains fulfill the machinery-makers needs and assure the steady output desired.

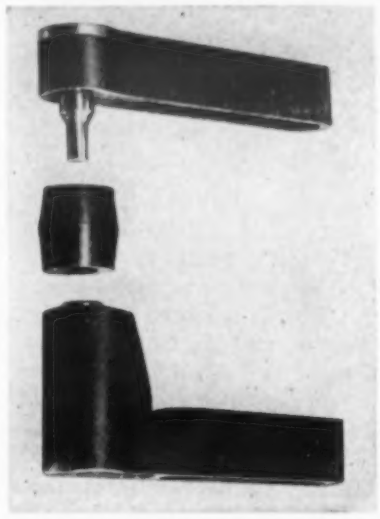
You may not make bake ovens but there is good reason to know that Diamond Roller Chains can improve the machinery you make or use.

DIAMOND CHAIN COMPANY Inc.
Dept. 457, 402 Kentucky Avenue, Indianapolis 7, Indiana
Offices and Distributors in All Principal Cities.

DIAMOND ROLLER CHAINS

▲ For more details circle NED-752 D4 on enclosed inquiry slip ▲

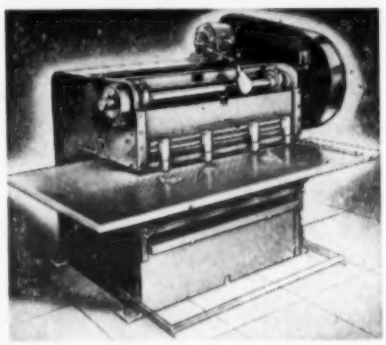
PUNCH & DIE RETAINERS for R-B punches and die buttons



Designed for use with R-B punches and die buttons, retainer is especially suitable for short production runs on light-gage metals and can easily be adjusted to any desired position on T-slotted or drilled and tapped commercial die sets. Stripping is accomplished with rubber strippers or rubber covered springs. Retainers are available for punch shank diameters of 3/8, 5/8, 7/8 and 1 in., and for die button outside diameters of 5/8, 7/8, 1 1/4 and 1 3/4 in. and have a ball locking feature providing positive locking and automatic alignment. Made by **Allied Products Corp.,** Richard Brothers Punch Div., 12629 Burt Rd., Detroit 23, Mich.

▲ For more details circle NED-753 D4 on enclosed inquiry slip ▲

SQUARING SHEAR operates at 120 strokes per minute

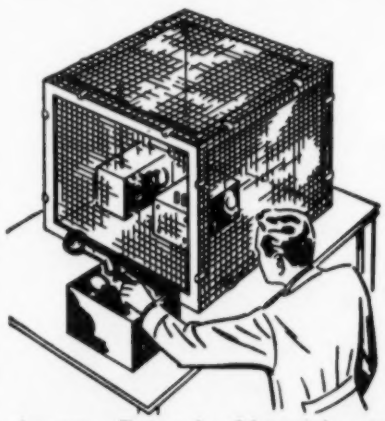


Designed for production shearing operations, model 52 squaring shear features maximum cut-off capacity of 52 in., has 24-in. gap and operates at a standard blade speed of 120 strokes per minute. It is fitted with punch press type clutch and can be used for nonrepeat shearing initiated by foot treadle at speeds up to 60 cuts per minute. Blades have four cutting edges, and table is provided with holes for fitting protractors for sequence cutting and notching. Cut-off length settings are indicated by an eye-level gage at the front of the machine and shearing head can be adjusted vertically for depth of cut. Capacity in mild steel is 1/8-in. Shear can also be used for cutting many other materials ranging from stainless steel to leather. Made by **Manchester Machine Corp.,** Dept. NED, Box 724, Manchester, Conn.

▲ For more details circle NED-754 D4 on enclosed inquiry slip ▲

TABLE MODEL SCREEN ROOM has attenuation of larger units

Double shielded screening is provided in this Portascreen table model screen room with an attenuation of over 100 decibels from 5 to 10,000 megacycles. Unit is prefabricated and cubical in shape, measuring 35 1/2 in. on all sides. It is practical for testing small equipment which can be placed inside enclosure without requiring testing personnel to enter room itself. Test instruments can be placed outside enclosure. Room is shipped in sections and can be assembled in 5 minutes. One panel is hinged and opens up entire side. For additional attenuation, triple screen wall Portascreen is also available. Made by **Erik A. Lindgren & Associates,** Dept. A, 4515 N. Ravenswood Ave., Chicago 40, Ill.



▲ For more details circle NED-755 D4 on enclosed inquiry slip ▲

Flexible Plastic Tubing

American Hard Rubber Co.—Physical properties, chemical resistance, standard sizes and general characteristics of Ace-Flex all-purpose plastic tubing are given in 4-page illustrated bulletin 66Db. Many applications for the flexible, transparent tubing in various fields are suggested.

▲ For more details circle NED-756 D4 on enclosed inquiry slip ▲

WATER PROBLEM? save 95% of your cooling water

with Acme towers

Whether your water supply problem is for one molding machine or for the air conditioning of the entire plant Acme has a cooling tower tailored to fit your needs. All Acme Towers are engineered and designed for the basic purpose of reducing by more than 95% the amount of water used without a tower.

Acme JCT models are small, compact and highly efficient. They are galvanized for indoor or outdoor operation. Capacities range from 3 to 12 tons.

For the bigger jobs you'll need Acme ACT models with capacities ranging from 8 to 60 tons.

Write for bulletin giving data on Acme's complete line of Cooling Towers.

ACME INDUSTRIES, INC.
JACKSON, MICHIGAN

Continuously serving the Refrigeration and Air Conditioning Industry since 1919

▲ For more details circle NED-757 D4 on enclosed inquiry slip ▲

RAPID ASPHALT PAINT

Spray or Brush—Dries Quickly Protects Any Surface

A quick-drying, glossy black coating. Provides a hard, tough, long-wearing surface. High insulating and moisture-proof qualities. A "must" for equipment that is constantly exposed to acid fumes or dampness. In six sizes from one pint cans to 55 gallon barrels. For metal, wood, masonry, coated fabrics, etc. For literature, write The Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.

▲ For more details circle NED-758 D4 on enclosed inquiry slip ▲

READ BOTH CURRENT AND VOLTAGE At a FAST CLIP!

with the COLUMBIA

$57.50 With Voltage Leads and Carrying Case

TYPE AC-1 VOLT-AMMETER

Ampere readings are taken in a few seconds with the Columbia Clamp-Type Volt-Ammeter. With one hand you can open jaws, set range switch and encircle conductor. No breaking of circuit or insulation required. Safety plug-in leads are provided for quick voltage readings. Measures up to 600 amperes and 600 volts alternating current.

Handiest precision instrument of its type. Light weight—fits easily into pocket. Insulated jaws accommodate bare conductors or insulated cables up to 1 1/2" diameter or bus bars up to 2" x 1/4". Convenient switch enables operator to select the following A.C. ranges: 0/12/60/120/600 amperes; 0/150/600 volts. The Type AC-1 is the latest addition to the line of Columbia instruments having an established reputation of highest quality and dependability.

Write for descriptive Bulletin AC-25

COLUMBIA ELECTRIC MFG. CO. 4525 Hamilton Ave Cleveland 14, Ohio

▲ For more details circle NED-759 D4 on enclosed inquiry slip ▲

Lightweight-Economical

IT'S THE REVOLVATOR® UPLIFTER ELEVATOR

Adaptable for shop use or warehouse handling and ideal for shipping and receiving—the new electric Uplifter is the real buy today in materials handling. In two capacities, 1000 - 2000 pounds, platform sizes 24 x 24 and 30 x 30, lifts of 62 and 65 inches on standard models—the Revolvator Uplifter can be had powered by a variety of electric circuits ranging from an automobile battery to 220 volt currents.

Priced under all competition, the Uplifter includes all the safety and convenience features that have made Revolvator portable elevators a standard in industry. Get full information today on this new, easy operating inexpensive portable elevator. Remember, too—we build Revolvator Portable elevators to your particular needs.

Write or phone

REVOLVATOR CO.

8732 TONNELE AVENUE, NORTH BERGEN, N. J. • UNion 3-8120

For more details circle NED-760 D4 on enclosed inquiry slip

Chicago MOUNTED Wheels

...now even better with **79E BOND**

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & *Mfg. Co.*

Dept. NED • 1101 West Monroe Street, Chicago 7

For more details circle NED-761 D4 on enclosed inquiry slip

Check Temperatures

Instantly... Accurately with *Alnor* TYPE 1500 PORTABLE PYROMETER

Wherever temperature readings are required—on the production line, in the laboratory or in the field—this sturdy precision instrument can bring you instant, accurate results.

Here's Why

It's Fast... in operation and quickly read. Precision movement designed to laboratory standards. Direct reading scale face is easily understood—no slide wires or conversion tables necessary.

It's Accurate . . . consistently to within ¾ of one percent under almost all variable conditions. Sturdy, protective case assures continued accuracy in toughest portable service. Ten scale ranges available, from 0-400° to 0-3000°F. Equivalent Centigrade scales available at no extra cost.

It's Portable... compact size, 6½"x6"x3", and light weight make this pyrometer highly portable and easy to use anywhere. Write today for complete details and prices. Illinois Testing Laboratories, Inc., Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

Send for Bulletin on 1500 Pyrometer.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

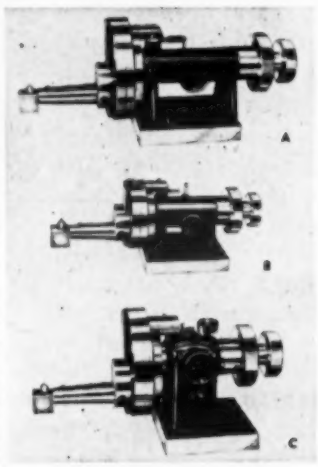
For more details circle NED-762 D4 on enclosed inquiry slip

HIGH PRESSURE PUMPS have hard ceramic cylinders

Abrasive spray materials will not wear or scratch the sapphire-hard ceramic cylinders used in Royalette model 44 and 70 pumps. Self-expanding plunger cups slide easily over the diamond-honed cylinders. Pumps have capacities of 4 and 7 gpm at 400 psi, respectively. They are completely enclosed and all working parts are constantly lubricated by an oil bath. Moving parts in upper section are lubricated by splash action. Crankshaft is operated directly by a smooth V-belt drive at speeds of 528 and 560 rpm. Horsepower required is 1¼ and 2, respectively. Largest capacity unit measures 9¾ x 12 x 21 in. Made by **Food Machinery & Chemical Corp.,** John Bean Div., Dept. 36, Grand Rapids, Mich.

For more details circle NED-763 D4 on enclosed inquiry slip

WHEEL DRESSERS three models afford capacity variety

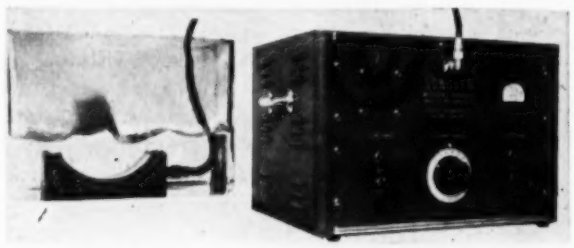


Model A in line of Last-Word wheel dressers has 3.400-in. center height and can be used to dress any angle tangent to a radius, concave or convex, in any precision grinding wheel. It dresses at base of wheel, or point of contact, allowing use of wheel guard and dust collector during dressing operation. Smaller model B with 2.600-in. center height will dress a radius and any two tangent angles in one operation. It will dress male radii to 1 in. and female radii to 2 in. with tangent angles to ¾-in. maximum length, on wheels up to 7 in. diameter. Model C compound dresser has tilting feature designed to compensate for compound angles involved in grinding form tools. Distributed by **Last Word Sales Co.,** 18502 Mt. Elliott, Detroit 34, Mich.

For more details circle NED-764 D4 on enclosed inquiry slip

ULTRASONIC PARTS CLEANER for simple and complex components

Cleaning and degreasing of small parts and metal objects, as well as complex components, can be accomplished by the model 500 Sonogen ultrasonic-



power generator. Cleaning solvent is activated at high frequency by a low-voltage focused ceramic transducer immersed in it. Installation can be in conventional vapor degreasing systems by using cables between power unit and transducer. Standard transducers available have focussed surfaces of either 15 or 30 sq in. Although cleaning action is concentrated in a "focal region," it is also prevalent in neighboring areas in a lesser degree. Made by **Branson Instruments, Inc.,** Dept. A, 430 Fairfield Ave., Stamford, Conn.

For more details circle NED-765 D4 on enclosed inquiry slip

Worm Gear Speed Reducers

Eberhardt-Denver Co.—Much engineering information regarding selection of worm gear speed reducers, horsepower and torque calculations and service factors is content of 48-page illustrated catalog 1006. Various types of single and double reduction units, including the "poweRgear" line, are covered. Selection and ordering information, complete ratings and engineering drawings are found in the catalog.

For more details circle NED-766 D4 on enclosed inquiry slip

THE NEW REED *Convertible* PIPE CUTTER

A simple, rapid change-over converts the Roller cutter into a 4-wheel cutter for ditch work or similar restricted-area cutting.

Whether in the Roller, 3-wheel or 4-wheel models these new Reed cutters are the easiest and cleanest cutting tools in their size range. In the Roller model, the cutting wheel is in the block where it is always in full sight for lining up with a cut-off mark on the pipe. The 4-wheel model is excellent for close quarters since it operates with an easy, ratchet-like action through one-fourth of a revolution. Pipe or conduit capacity up to 2 inches. Reed Razor Blade wheels cut easier, leave minimum burr.

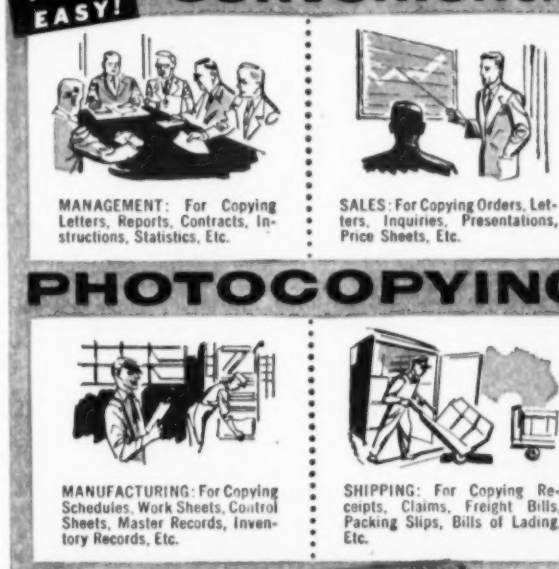
Ask your supplier or write for free literature.

REED MANUFACTURING COMPANY

ERIE • PENNSYLVANIA • U. S. A.

For more details circle NED-767 D4 on enclosed inquiry slip

FAST! EASY! convenient...



MANAGEMENT: For Copying Letters, Reports, Contracts, Instructions, Statistics, Etc.

SALES: For Copying Orders, Letters, Inquiries, Presentations, Price Sheets, Etc.

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***ANYTHING** right in your own office!*

APECO *Auto-Stat* Systematic

EVERY DEPARTMENT can use the Apeco Systematic Auto-Stat. This new all electric photocopying machine prints, processes and dries automatically. It's fast—dry copies in less than 45 seconds! It's convenient—fits on the corner of any desk . . . it's ready for instant use! It's easy—anyone can operate it! Saves up to 80% on copying jobs. Eliminates retyping, hand copying, checking or costly outside copying service. Makes legally accepted black and white or colored copies from any original up to 11" x 17"—printed on one or two sides. So low cost—a complete Apeco Systematic Auto-Stat installation is priced well within the budget of even the smallest firm.

Lifetime Service Guarantee

NEW COMPLETE PHOTOCOPY INFORMATION KIT—IT'S FREE

American Photocopy Equipment Co.
1908 W. Peterson, Chicago 26, Illinois

RUSH ME NEW PHOTOCOPY INFORMATION KIT containing booklet on the Apeco Auto-Stat plus separate folders on copying tax returns, color copying and copying on preprinted forms.

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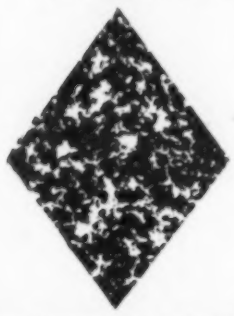
For more details circle NED-768 D4 on enclosed inquiry slip

THE MOST AMAZING FINISH DEVELOPMENT IN 100 YEARS!

COLOR-FLECKED **PLEXTONE**

A textured and MULTICOLORED finish — sprayed at ONE time, from ONE gun, in ONE coat that covers surface flaws completely!



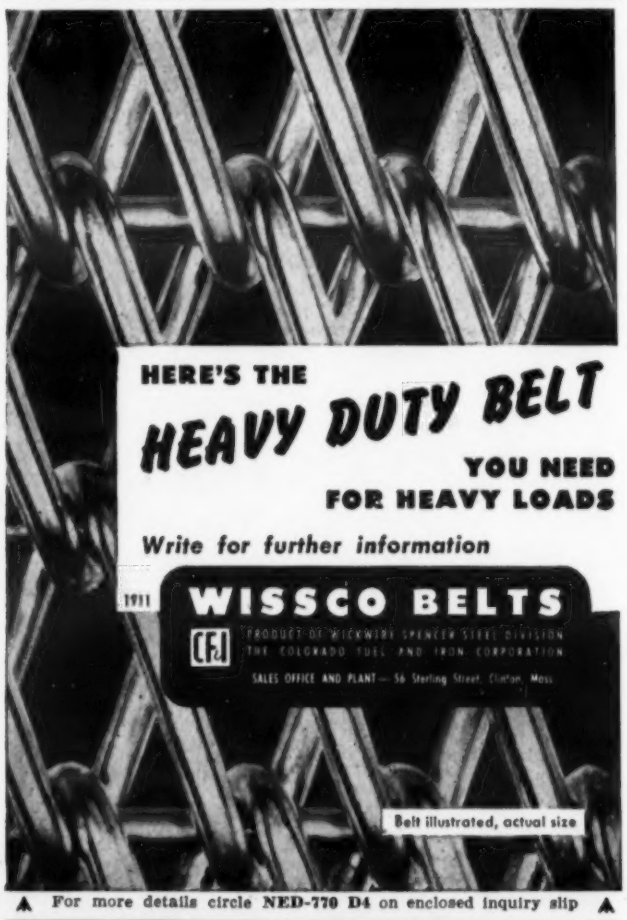
PLEXTONE Albans Granite, one of many standard pre-mixes. Also solids and custom multicolors.

A new lacquer base industrial finish, Color-flecked PLEXTONE combines the new sales appeal of *multicolor* with extreme durability and economy. It resists oil and alcohol, can be scrubbed (even scoured) because color flecks go "through-the-film." Tests show that finishing costs can be cut as much as 35%.

Samples, color chips, technical data on request

MAAS & WALDSTEIN CO.
2116 McCarter Highway, Newark 4, New Jersey
Midwest Division: 1658 Carroll Ave., Chicago 12, Ill.
Pacific Coast Div.: Smith-Davis Co., 10751 Venice Blvd., Los Angeles 34, Cal.

For more details circle NED-769 D4 on enclosed inquiry slip



For more details circle NED-770 D4 on enclosed inquiry slip

USE THIS NEW SAFETY MATERIAL ALL OVER YOUR PLANT

Safety **GRIP-STRUT** Pat. Pending

NON-SKID—RUGGED—LOW COST

Safety Grip-Strut is a new basic material. All one piece, steel or aluminum, in various sizes and gauges. Sold like lumber, used like lumber and stocked in your storeroom like lumber. Ideal for on-the-job fabricating. Not welded, riveted or expanded. It presents an open space, in a diamond shaped pattern, in excess of 75% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for stair treads, fire escapes, cable trays, work platforms, catwalks, flooring and for original equipment safety treads. Your own mechanics can install it—it's inexpensive, yet permanent and safe.

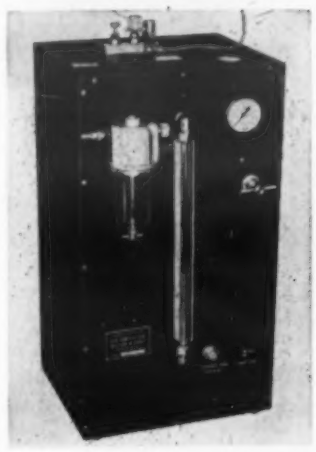
Write today for new catalog showing loadings and methods of easy application in your plant.

Distributors in all principal cities.

GRIP-STRUT division
THE GLOBE COMPANY
Manufacturers since 1914
4002 S. Princeton Ave. • Chicago 9, Ill.

For more details circle NED-771 D4 on enclosed inquiry slip

MIST COOLANT UNIT
for cutting applications



Flexible tubes of any specified length enable the redesigned Lo-Jet Acro Mist cooling unit to be moved and installed at the desired location close to the cutting operation. Compact coolant system has a master panel control for constant spray regulation. It is offered with a pedestal for mobility and brackets for permanent location installation. The finest fog or an actual stream of coolant can be achieved simultaneously to meet the needs of different operations services by the same unit. Made by **Air Conversion Research Corp.**, Dept. NED, 4107 N. Damen Ave., Chicago 18, Ill.

For more details circle NED-772 D4 on enclosed inquiry slip

ELECTRIC FUEL PUMP
for use with gasoline engines

Designed for use with any gasoline engine, Super electric fuel pump is available in 6 and 12-v models, can be used on either positive or negative ground systems and has a fuel capacity of 35 gph. At this speed, it operates at only 250 strokes per minute. Pump is activated when the ignition switch is turned on and operates at such a rate as to keep the carburetor float bowl full. It is self-priming and is not subject to hot weather vapor locks. Diaphragm-type unit is made by **Stewart-Warner Corp.**, Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-773 D4 on enclosed inquiry slip

DESIGN ROLLERS
for painting patterns on walls

"Wallpaper-style" designs and patterns can be roller-painted on walls of various surfaces with Arsco design rollers. They can be used with any type of paint and are easy to use and clean. Design roller is easily attached to any conventional type paint roller and is offered in a choice of 18 patterns, each so devised that overlapping or offsetting will not detract from the finished effect. **American Products Co.**, 3306 Edson Ave., New York 69, N. Y.

For more details circle NED-774 D4 on enclosed inquiry slip

TWIN BARREL FINISHER
has movable chutes under barrels

Movable chutes under barrels of this twin barrel finisher can be tilted to rear to drain off liquids, then tilted forward to deliver load to proper containers. Chutes tilted to the rear while machine is operating also form an effective guard around moving barrels. Twin barrels have load capacity of 1.1 cu ft each and can be furnished unlined or lined with vinyl plastic. They are made with largest possible opening for easy and fast servicing. Finisher is powered by ¾-hp 220/440-v three-phase motor. Made by **Rampe Mfg. Co.**, 3322 St. Clair Ave., Cleveland 14, O.

For more details circle NED-775 D4 on enclosed inquiry slip

NOW! AN IMPROVED LOW COST CASTER
with Hardened Raceways
Unbreakable Fork and Top Plate

SERVICE PRESSWELD CASTERS

STRONG! AGILE! QUIET!

Here, at last, is a truly efficient, light-weight caster in the low-cost field. Ideal for Dollies, Racks, Box Trucks and similar applications in the moderate capacity range. Many features usually found only in high price casters provide for years of trouble-free performance. Get PressWelds — and get SERVICE quality at low cost.

Write for sizes, capacities and low prices

INDOOR MILES Made BASIER and SAFER

SERVICE CASTER & TRUCK CORP.
Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.

See your Classified Telephone Directory for Nearest Distributor

For more details circle NED-776 D4 on enclosed inquiry slip

This specialized Pittsburgh brush solved Wheeling Steel's cleaning problem—saved money and boosted quality as well as increased production!

Problem:
How to be tough and soft at the same time!

That was the problem presented to the Pittsburgh Plate Glass Company by the Steelcrete Division of Wheeling Steel, Beech Bottom, W. Va.—and it required a specialized Pittsburgh brush to solve it!

Large sheets of expanded metal had to be cleaned without impairing the surface texture, yet the brush had to cut through tough scale and remove burrs. A special steel wire was chosen, made up into brushes, and applied to the problem. Result? Combining the right amounts of toughness AND softness, the brush completely eliminated burrs in a matter of minutes, leaving the face of the metal unharmed. Moreover, cleaning is quicker and costs less than with other brushes!

WRITE TODAY for your free copy of our new booklet that shows, thru actual case histories, how Pittsburgh can help cut *your* brushing costs. Address: Pittsburgh Plate Glass Company, *Brush Div.*, Dept. W-4, 3221 Frederick Ave., Baltimore 29, Md.

PITTSBURGH *Power Driven* **BRUSHES**

BRUSHES • PAINTS • GLASS • CHEMICALS • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

For more details circle NED-777 D4 on enclosed inquiry slip

Vibration-proof Fastening—with BIG SAVINGS

PALNUT TRADE MARK **LOCK NUTS**
for quick, secure fastening at low cost

—cost less than plain nuts
—eliminate lockwashers
—speed up assembly
—save space, weight
—may be re-used

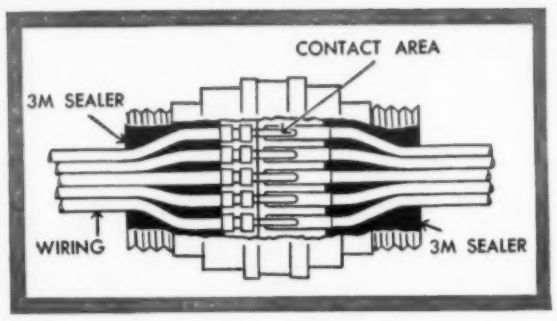
Check all your light duty nut-and-screw assemblies against the speed, savings and security of double-locking PALNUT Lock Nuts. Especially adapted to easy, fast power driver assembly of mass-produced items. Lock as they tighten, stay tight under severest vibration. Millions used monthly on all types of light assemblies.

★ For Free Samples, send details of assembly, screw size, etc. Ask for latest catalog showing complete line, uses, etc.

THE PALNUT CO.
45 Cordier St., Irvington 11, N. J.
In Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

▲ For more details circle NED-778 D4 on enclosed inquiry slip ▲

NEW permanent seal!



Protects connectors against vibration, moisture and wear

It's 1120-PC—a new low-voltage dielectric sealer that protects electrical connectors against vibration, salt air or condensed moisture. Originally introduced by 3M for aircraft electronic connector plugs, it is now being evaluated by radio, TV and other industrial electronic fields.

Looking for the practical answer to your low-voltage electrical potting and sealing problems? Send for complete data on 1120-PC today!

For details, write 3M, Dept. 84, 417 Piquette Ave., Detroit 2, Michigan.

3M COMPANY
MINNESOTA MINING AND MANUFACTURING COMPANY
ADHESIVES AND COATINGS DIVISION

see our catalog in PRODUCT DESIGN FILE or write for copy

▲ For more details circle NED-779 D4 on enclosed inquiry slip ▲

▲ For more details circle NED-780 D4 on enclosed inquiry slip ▲

HORIZONTAL GRINDER
has both platen and contact roll

Serrated rubber contact belt used on this German-made horizontal platen grinder minimizes glazing or loading of the abrasive belt because of its high speed impact action. Model KGB 310 machine has both platen and contact roll and features high cutting speed. It has a two-speed motor which develops belt speeds of 5000 and 12,000 sfpm. The contact belt running between the platen and the abrasive belt provides flat grinding. Combination of these features permits fast cutting with fine grit abrasive belts and results in fine finishes. Available from **Curtis Machine Corp.**, 1302 E. Second St., Jamestown, N. Y.

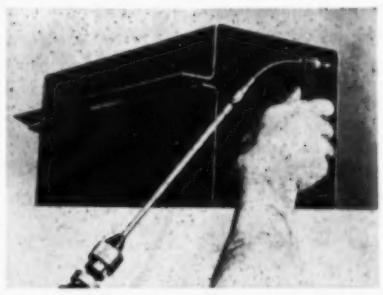
▲ For more details circle NED-781 D4 on enclosed inquiry slip ▲

NEMA RERATED MOTORS
frame sizes 182 and 184 available

Now in production in frame sizes 182 and 184, Klosd normal speed electric motors incorporate latest NEMA standards specifying greater horsepower for size. Motors have diagonal cover type terminal boxes that can be rotated 360 degrees and set in any desired position. Moisture resistant labryinth seal on pulley end protects both open and fan-cooled types; improved brackets give greater protection to windings; and improved insulation offers better moisture and heat resistance and mechanical strength. Made by **Sterling Electric Motors, Inc.**, Dept. NED, 5401 Telegraph Rd., Los Angeles 22, Calif.

▲ For more details circle NED-782 D4 on enclosed inquiry slip ▲

FLEXIBLE DRILLING TOOL
for hard-to-get-at places



Flexible coupling, extension rod and a handle make up the Flex-Drill, a flexible drilling attachment for portable electric drills for hard-to-get-at places. Coupling is 3-in. length of ¼-in. high-strength steel cable with steel fittings swaged on ends. It will bend almost 90 degrees. Chuck end has 5/16-in. 24 female thread to accommodate drill chuck, while other end is threaded to fit ¼-in. extension rod. Handle which serves as both guide and bushing for fitting at chuck end is made of Lignum-Vitae, a hard self-lubricating wood. Accessories are available. Made by **Ritmar Corp.**, Dept. NED-81, 183 New York Ave., Huntington, N. Y.

▲ For more details circle NED-783 D4 on enclosed inquiry slip ▲

STEEL MEASURING TAPE
has black-on-white markings

Met-All White plating process used in producing No. 600 steel measuring tape combines the White feature of soft coated tape with durability of plated tape. A hook handle is optional at no extra cost. Tape is offered with a copper plated and welded steel case which is covered with a heavy red vinyl and is packed in a vinyl pouch with air tight zipper. It is made in 25, 50, 75 and 100-ft lengths. Made by **Justus Roe & Sons**, Roe Ct., Patchogue 3, N. Y.

▲ For more details circle NED-784 D4 on enclosed inquiry slip ▲

SAND SCREEN—NEW ABRASIVE CLOTH
Use both sides...do 7 to 15 times more sanding per sheet or disc

SAND SCREEN, new open-mesh abrasive cloth by CARBORUNDUM for sanding and finishing, lets the removed material flow right through—instead of loading and glazing as conventional abrasive paper and cloth do. You use *both* sides, for each is uniformly coated with CARBORUNDUM's famous hard, sharp silicon carbide abrasive grain. Lasts from 7 to 15 times longer...gives fast, easy sanding on metal, wood, paint undercoats and sealers. Use it wet or dry...by hand or machine.

SAND SCREEN is available in full sheets, cut sheets and discs—in 180 and finer grit sizes. For hand sanding, full 9" x 11" sheets fold like paper, tear like cloth to any width you desire. Cut sheets fit your air or electric oscillating or vibrating sanders. SAND SCREEN Discs give best results when used wet with CARBORUNDUM's FASTCUT Pad Assembly. Ordinarily, no adhesive is required when sanding flats or slight contours ...the surface of the FASTCUT Pad holds the disc in place.

If you have any sanding and finishing operations where loading and glazing of your present abrasive is a problem—or where considerably less loading would help speed production, it will pay you to investigate SAND SCREEN. Your CARBORUNDUM Salesman or Distributor (listed in the yellow pages under "Abrasives" and "Grinding Wheels") will work closely with you to help you take full advantage of its many cost-cutting features. Call him—or, if you prefer, use the inquiry form provided by this publication; or write to **The Carborundum Company,** Dept. NED 82-47, Niagara Falls, New York.

"Carborundum", "Sand Screen" and "Fastcut" are trademarks of The Carborundum Company, Niagara Falls, New York

82-47

▲ For more details circle NED-785 D4 on enclosed inquiry slip ▲

Cosden Petroleum Corporation cuts costs and corrosion with ALCOA UTILITUBE*

45,000 feet of ALCOA Aluminum Coiled Tube in instrument air service at Cosden's BTX Plant, Big Spring, Texas. Partially exposed to hydrogen sulfide gas, tubing shows no corrosion, has required no maintenance since installation in mid-1952. Installation designed and licensed by Universal Oil Products Company and built by Procon, Inc.

This company found that ALCOA UTILITUBE* is the lowest cost corrosion-resistant tube you can buy—*up to 40 per cent less than other corrosion-resistant metals.* It gives you three times more feet per pound. It is easier to form, flare and bend than annealed copper. It will not gum, sludge or discolor the fluids it carries.

Alcoa Utilitube comes in standard 50 and 100 foot lengths and in economical, long lengths up to 1,000 feet in some sizes.

Alcoa Utilitube is designed to handle fuel and lubricants in engines, air in instrument systems, fluids in hydraulic systems, cutting compounds in machine tools, etc. For complete information, write for the booklet, *Alcoa Utilitube.*

ALUMINUM COMPANY OF AMERICA
1002-D Alcoa Building, Pittsburgh 19, Pa.

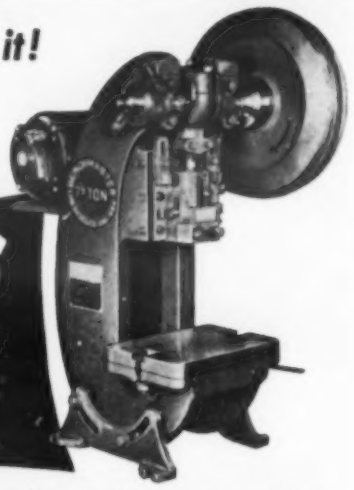
*Registered Trademark, Aluminum Company of America

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

▲ For more details circle NED-786 D4 on enclosed inquiry slip ▲

You demanded it! benchmaster built it!



7½ TONS IN EVERY STROKE!

This moderately-priced punch press now gives you the *extra* tonnage capacity to easily handle jobs overloading your smaller presses. Massive, heavy-duty construction throughout, plus proven features that have made Benchmasters the world's favorite low-tonnage presses!

See the complete Benchmaster line today! Now available in 51 models! Literature available! Benchmaster Manufacturing Company, 1835 W. Rosecrans Ave., Gardena, California

Also available:
BACK GEARED to provide the slow, powerful strokes for blanking, forming and deep drawing operations.
HALF-PRESS where unlimited shut height is needed!

benchmaster World's largest manufacturer of small punch presses and mills.

▲ For more details circle NED-787 D4 on enclosed inquiry slip ▲

9 times out of 10 . . .

these handy STANDARD finishes will meet your SPECIAL finish needs!

"Special" finishing needs DON'T always require special finishes! This broad line of Sherwin-Williams STANDARD Industrial Finishes has been developed to meet the vast majority of industrial product finishing requirements—WITHOUT the delays and added cost involved in ordering special formulations.

Whether you finish wood or metal—whether your need is for unusual effects, or staple production items—you will find close-at-home convenience in these locally stocked materials. Consult your nearby Sherwin-Williams Branch, or write today for literature on the Sherwin-Williams Standard Industrial Finishes in which you are interested.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES
The Sherwin-Williams Co.
General Industrial Division, Cleveland 1, Ohio

Please send literature on _____
NAME _____
COMPANY _____
ADDRESS _____

▲ For more details circle NED-788 D4 on enclosed inquiry slip ▲

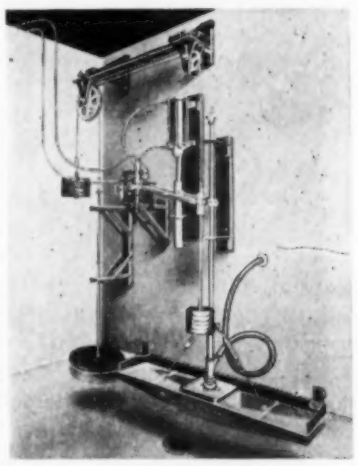
SHUNT OR SERIES MOTORS in open or closed construction provide many optional features

Electrical motor suitable for control mechanisms, vending machines, watchmaker's lathes and similar applications is available in shunt and series wound types with either open or closed construction. Internal fan is optional and either porous bronze self-aligning sleeve bearings with oil reservoir or precision grease sealed ball bearings can be supplied.

Other optional features include ten different gear units with wide choice of ratios; automatic governor controls for two, single or adjustable speeds; and automatic or manual motor protector. Base or face mounting is possible. Speed range for series type is 5000 to 15,000 rpm, rated at 1/10-hp continuous duty and 1/5-hp intermittent duty. Shunt motor is similarly rated at 1/12 and 1/6-hp. Units are available for standard ac and dc voltages. Made by **Howard Industries, Inc.,** 1217 State St., Racine, Wis.

▲ For more details circle NED-789 D4 on enclosed inquiry slip ▲

OIL RECLAIMER separates oil from liquid wastes



Oil skimmer or reclaimer automatically and continuously skims oil from surface of liquid process wastes. In addition to reclaiming oil for re-use, it also contributes materially to efficiency of antipollution systems. Assembly consists of a movable trough mounted so that it floats with its lip just below the level of the liquid waste, filters and a suitable pump mounted outside the tank. A combination of hydraulic cylinder power applied through compound leverage and counterbalancing keep the trough at the required level automatically. All operating parts are constructed from corrosion-resistant materials. Made by **Simplex Valve & Meter Co.,** 6749 Upland St., Philadelphia 42, Pa.

▲ For more details circle NED-790 D4 on enclosed inquiry slip ▲

VACUUM TUBE VOLTMETER measures voltages and resistances

General purpose laboratory or service vacuum tube voltmeter measures direct and alternating current voltages and resistances. Model 201 covers seven full-scale ranges within 1.5 to 1500 v dc at an impedance of 11 megohms. Alternating current ranges are calibrated both in rms values of sine waves (1.5 to 1500 v full scale) and peak to peak values of from 4 to 4000 v. Resistance values from 1000 ohms to 1000 megohms full scale are also covered in seven ranges. Standard probes include a model with a built-in light to facilitate measurements in dark corners of chassis. High voltage and high frequency probes are available as accessories. Made by **Beckman Instruments, Inc.,** Shasta Div., Dept. S-1, P. O. Box 296, Station A, Richmond, Calif.

▲ For more details circle NED-791 D4 on enclosed inquiry slip ▲

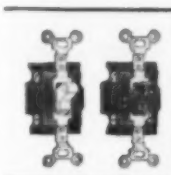
Chemical Pumps

Philadelphia Pump & Machinery Co.—Simplex and duplex reciprocating plunger pumps for pressures to 20,000 lb and capacities from a few cc's per minute to over 900 gallons per hour are described in 12-page illustrated bulletin. Also included are data on standard stainless steel, spring-loaded double-ball check valve and the Saf-T-Kleen valve for corrosives, slurries, etc.

▲ For more details circle NED-792 D4 on enclosed inquiry slip ▲

JUST THREE EXAMPLES OF P&S ENGINEERING AND MANUFACTURING SKILL

P&S *For Quick Wiring — For Long Life,*



P&S SUPER A. C. SWITCHES
Maximum Service — Quiet Operation — Long Life. Rated 15 and 20 Amp., 120 V. A.C., 277 V. A.C.

P&S Turnlok® Line
Sturdy—Easy to wire — Modern Design. Connectors, Caps and Receptacles — 10 and 20 Amp., 2, 3 and 4-wire.

P&S Polarized Devices
Extra thick bodies — extra heavy metal parts—to stand rough usage. A complete line of 10 and 20 Amp., 2, 3 and 4-wire connectors, caps and receptacles.

For information on complete P&S Line, send for Catalog No. 49. Specify P&S by catalog number.

Department N
PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
Offices: 71 Murray St., New York 7, N. Y.
1229 W. Washington Blvd., Chicago 7, Ill.

▲ For more details circle NED-793 D4 on enclosed inquiry slip ▲

ECONOMIZE with Morton . . . FIXTURE CLAMP and COMPONENTS

- IMMEDIATE DELIVERY
- LARGEST ASSORTMENT OF SIZES AND TYPES IN THE INDUSTRY.
- ASSURED QUALITY and SERVICE.

BE SURE TO VISIT US AT ASTE SHOW BOOTH 113

WRITE TODAY
For our Catalog showing our complete line and including full size templates of each Fixture Clamp and Component . . . Save Tool and Designing Costs.

MORTON MACHINE WORKS
2425 Wolcott St., Detroit 20, Mich.

▲ For more details circle NED-794 D4 on enclosed inquiry slip ▲

50 years in the making

BLACKMER'S "Gold Seal" TRUCK PUMP

Long life and economical operation is assured BLACKMER'S customers with a new design which represents 50 years of experience in building the famous Rotary Pumps which are,
"SELF-ADJUSTING FOR WEAR"
The new design incorporates all of the time tested BLACKMER features plus:
The BLACKMER CARTRIDGE-TYPE *Mechanical Shaft Seal. Heavy Duty Anti-friction Bearings completely protected from the pumpage.*
Available in two sizes, 2½" and 3", rated at 100 GPM and 200 GPM respectively. "Listed by Underwriters' Laboratories, Inc."
Write for complete details.

liquid materials handling
BLACKMER

Industrial, Hand and Truck Pumps, Strainers, Pressure Control Valves
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.
DIVISION SALES OFFICES — NEW YORK • ATLANTA • CHICAGO
GRAND RAPIDS • DALLAS • WASHINGTON • SAN FRANCISCO
See Yellow pages for your local sales representative

▲ For more details circle NED-795 D4 on enclosed inquiry slip ▲

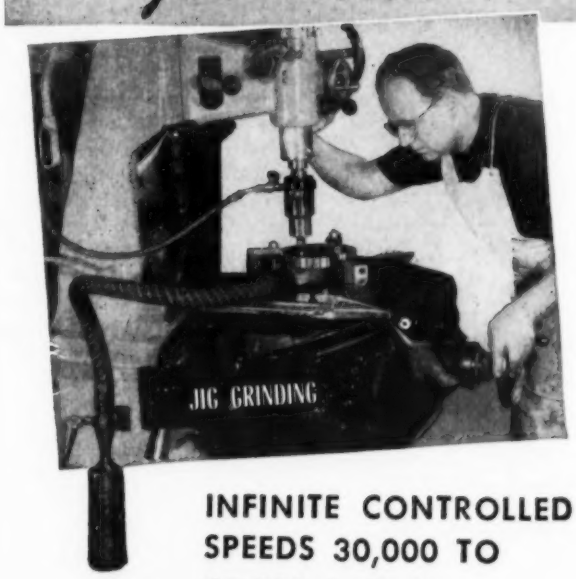
Chainveyor System Setting New High Standards of Performance in Light Trolley Conveyer Field

ELLWOOD CITY, PA.—Many manufacturers are finding the answer to their problem of overhead handling of small parts in the CHAINVEYOR. The Chainveyor is a light, overhead trolley which is extremely flexible and easily installed. It is recommended wherever light, overhead conveying equipment is required. Call in your Mathews representative, or ask for a Chainveyor catalog. Write: MATHEWS CONVEYER CO., Ellwood City, Penna.

you'll handle it better with
MATHEWS CONVEYERS

For more details circle NED-796 D4 on enclosed inquiry slip

JIG GRINDING ACCURACY *guaranteed**



INFINITE CONTROLLED SPEEDS 30,000 TO 65,000 R. P. M.

Easily connect jig grinder to jig borer or mill

Then you can finish grind in hardened steel to "tenths" . . . jig grind dowel holes square with a ground base . . . move location of holes in hardened steel blocks . . . jig grind interchangeable holes in hardened sections . . . grind small holes with diamond impregnated mandrels . . . grind contours and relief with tungsten carbide burrs . . . grind radii in die sections . . . eliminate jig bushings in tools where close spacing is essential.

Other infinitely controlled air driven spindle applications

Place spindle on most any machine. Use it for finishing contours on hardened steel working surfaces . . . burring or milling die castings . . . routing wood contours . . . carbide milling or finishing slots . . . finishing holes in hardened steel to "tenths" . . . grinding with diamond wheels, carbide burrs, or diamond impregnated mandrels.

Advantages—10 micro finishes using carbide mills . . . 6 micro finishes using mounted points, operates at any angle . . . air driven, air cooled, overheating prevented . . . speed controlled at optimum point . . . 3⅝" long motor uses little working space . . . By controlling speed at any point you abolish need for many constant speed spindles.

For immediate quotation please state machine tool application. Get this manual of photos showing operations Vulcanaire performs.

*Dependably accurate to "tenths"

Vulcanaire
It's built by toolmakers for toolmakers

VULCAN TOOL CO., 737 Lorain DAYTON 10, OHIO

For more details circle NED-797 D4 on enclosed inquiry slip

VARISTOR EXPERIMENTAL KITS provide disk and rod-type varistors

Variety of miniature disk and rod-type varistors for experimental applications in electronics, communications and power control are provided by two Thyrite varistor kits. Kit No. 1 contains 12 miniature disk-type varistors, two each of six ratings, color-coded with connecting leads. Kit No. 2 contains 10 rod-type varistors, two each of five ratings and color-coded with connecting leads. Both kits contain data tables of physical and electrical properties and log-log volt-ampere characteristics graphs. Disk-type kit is priced at $3.75 and rod-type at $5.25. Offered by **General Electric Co.,** Schenectady 5, N. Y.

For more details circle NED-798 D4 on enclosed inquiry slip

PRESSURE TRANSMITTER for use with liquid or gas meters

Positive seal between gaging system and fluid being measured is provided by the model 6100F pressure transmitter for use with pneumatically-operated instruments in measuring liquid and gas pressure, or depth, weight or volume of liquids in vented and pressurized tanks. Hydrostatic gages, manometers and pneumatically actuated recorders or controllers can be used with the air-operated device. Two or more receivers can be used with the same transmitter, at different locations if desired. Essentially a 1 to 1 transmitter, it has a linear response from ½-in. water upward. Accurate readings at all pressures to 20 psi in vented tanks and to 45 psi in pressurized tanks are possible. Made by **King Engineering Corp.,** P. O. Box 540, Ann Arbor, Mich.

For more details circle NED-799 D4 on enclosed inquiry slip

LINE-OPERATED pH METER simple to operate and maintain

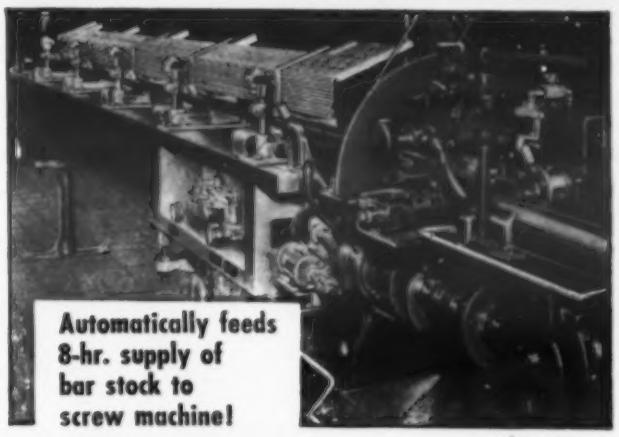
Direct, reproducible readings to 0.05-pH from 0 to 14 can be made continuously through neutral point without range switching on model 115 line-operated pH meter which has 4-in. scale with 140 division lines. Instrument is simple to operate and to maintain. Meter is unaffected by fluctuations within 95 to 130-v and is independent of frequency variations. Millivolt measurements from +400 to −400 and from +800 to −800 can be made for titrations. Meter is furnished with fully-shielded glass and calomel electrodes. Temperature control range is from 20 to 60° C. Made by **Photovolt Corp.,** 95-97 Madison Ave., New York 16, N. Y.

For more details circle NED-800 D4 on enclosed inquiry slip

Dynamometers

Eaton Mfg. Co., Dynamatic Div.—Descriptive matter pertaining to construction of line of dynamometers, accessories and controls is found in 16-page bulletin DB-1. Covered are liquid cooled, absorption, motoring, universal and special purpose dynamometers. Typical installations are shown and many photos, engineering drawings, graphs and tables are included.

For more details circle NED-801 D4 on enclosed inquiry slip



LIPE AUTOMATIC MAGAZINE-LOADING BAR FEED

- Feeds stock to screw machine *all the time* — not dependent on operator.
- Cuts cycle time — *guaranteed* to attain at least 90% of machine's gross geared production capacity.
- Eliminates feed fingers — multiple feed finger feed-outs — feed finger adjustments and replacements. No jamming of remnants.

Lipe's AML Bar Feed is today's big advancement in screw machine stock feeding. Get full details — send today for 4-page folder, name of nearest distributor.

Lipe-ROLLWAY CORPORATION
Manufacturers of Automatic Clutches and Machine Tools
Syracuse 1, N. Y.

For more details circle NED-802 D4 on enclosed inquiry slip

LISTEN

STOP THE WHAM-WHAM-WHAM OF THAT INTAKE OR EXHAUST

with a **BURGESS-MANNING SNUBBER**

There is no engine, compressor, blower, vacuum pump, steam or gas turbine too large or too small to be effectively silenced by a Burgess-Manning Snubber.

Too—they give you a choice of plus values as: combination of noise reduction and air cleaning —or heat recovery—or spark arresting — or surge control — or water separating. Insure greater equipment efficiency, better oral communication in your plant, and prevent costly compensation claims.

We invite you to submit your problems — no obligation.

BURGESS-MANNING COMPANY
755 East Park Avenue, Libertyville, Illinois

For more details circle NED-803 D4 on enclosed inquiry slip

KODAGRAPH MICRO-FILE EQUIPMENT

Here's everything you need for a low-cost, trouble-free microfilming operation . . . one that will meet *your* individual requirements.

- **Kodagraph Micro-File Machines**—four separate models designed to meet a variety of conditions. *Each* a high-precision unit which can be operated by anyone.
- **Kodagraph Micro-File Film** —extremely fine grained, high resolution. Assures sharp, crisp rendering of all details.
- **Kodagraph Film Readers,** which permit you to view your films quickly, conveniently.
- **Kodagraph Micro-File Enlarger,** which enables you to make paper enlargements from 16mm. and 35mm. microfilms which are comparable in clarity to the originals.
- **Kodagraph Print Film** —ideal for making positive copies of negative microfilm records.

Write today for free illustrated booklet giving full information.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

For more details circle NED-804 D4 on enclosed inquiry slip

Cut Costs with MEAD MIDGET Air-Clamps

PNEUMATIC CYLINDERS

Horizontal and Vertical!

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, belting, etc. *Advantages over mechanized clamps:* 1. Any number can be operated by single master valves. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point. Send for new Mead AIR POWER Catalog, describing our line of Air-Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.

MEAD SPECIALTIES COMPANY

4114 No. Knox Ave., Dept. NA-44, Chicago 41, Ill.

▲ For more details circle NED-805 D4 on enclosed inquiry slip ▲

the Solution to your BIG PROBLEM is often...

a little Different set screw

It is amazing, the big difference in product performance that a tiny change in a little set screw will make. That's what over 1500 manufacturers of famous products have discovered, ever since 1935. Billions of regular and special types of set screws supplied by Setko, are proof that these "slightly different" set screws can lick vibration, improve close-precision setting, cut down costs on every kind of product from radios to farm tractors and from lawn mowers to washing machines. Find out for yourself, the many new and different kinds of Setko Set Screws, by sending for the brand new Setko Catalog No. 19, just off the press. Simply write your name and address on the margin of this page, tear and mail to us today.

This New FREE Book Tells you why over 1500 Leading Manufacturers rely on Setko to supply Improved and Special Types of Set Screws to solve puzzling problems.

Set Screw & Mfg. Co.
130 Main Street
Bartlett, Illinois • Suburb of Chicago
We specialize in solving Puzzling Set Screw Problems

A few of the famous users of Setko Set Screws

499NED

▲ For more details circle NED-806 D4 on enclosed inquiry slip ▲

SCAFFOLD EXTENSION LEG
permits adjustments up to 24 in.

Adjustment range of the Quik-Way extension leg for raising Fold-A-Way and aluminum sectional rolling scaffolds and aluminum ladders is 24 in. Ball bearing unit provides adjustment with maximum safety of ½-in. for each turn of collar. Locking mechanism cannot be left in an unlocked condition and leg cannot drop during adjustment or run down when weight is applied. Made by **Patent Scaffolding Co.**, 38-42 Twelfth St., Long Island City 1, N. Y.

▲ For more details circle NED-807 D4 on enclosed inquiry slip ▲

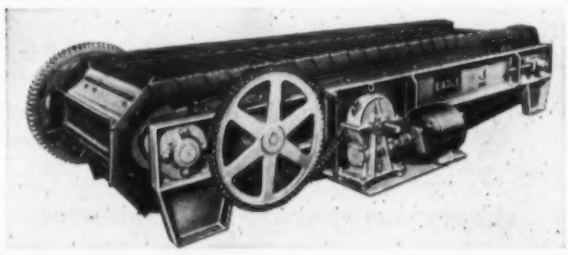
PAINT SPRAY GUNS
have replaceable tips and nozzles

A full range of internal and external air nozzles, which are interchangeable with all fluid tips within the line, is offered to users of redesigned series of four paint spray guns. They feature comfortable grip handles and replaceable tips and nozzles. Units feature integral head-stem assembly that connects with cup container for paint or a threaded fluid intake fitting for either a cup or a material line. Model 35 illustrated is an air valve type for use with material storage tank compressors. Made by **Sharpe Mfg. Co.**, 1226-A Wall St., Los Angeles 15, Calif.

▲ For more details circle NED-808 D4 on enclosed inquiry slip ▲

APRON FEEDER
for heavy bulk materials

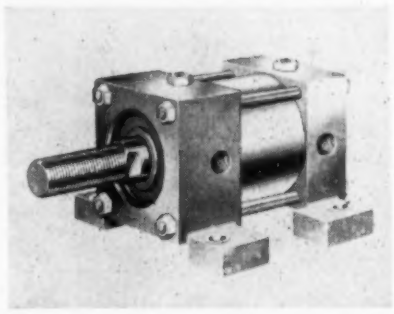
Stone, rock, coal and similar heavy materials can be moved from hopper to crusher, and other material handling operations can be fulfilled by this apron



feeder. Designed for heavy service, it has ½-in. thick interlocking steel or manganese plates that are riveted to heavy roller chain. Length is variable, width is 6 ft 1 in. and height is 2 ft 10 in. Equipment is available with gear reduction drive with electric power or chain drive with clutch. Made by **Eagle Crusher Co.**, 1100 Harding Way E., Galion, O.

▲ For more details circle NED-809 D4 on enclosed inquiry slip ▲

HEAVY-DUTY AIR CYLINDER
operates at up to 200 psi pressures



Heavy-duty line of air cylinders designed to operate at up to 200 psi pressures is suited for automation applications or general use on conveyors, dies, machine tools, presses and welding machinery as well as foundry, oil field and steel mill equipment. Cylinders are produced in five types of mountings and in eight bore sizes from 1½ through 6 in. Cartridge type rod packing and bearing make possible a quick change of packing with minimum down time. other advantages are extra large, hardened piston rods; double porting for high speeds; extra long cushions; interchangeable check and cushion adjustment valves; and rolled steel end plates. Made by **S-P Mfg. Corp.**, Dept. N, 12415 Euclid Ave., Cleveland 6, O.

▲ For more details circle NED-810 D4 on enclosed inquiry slip ▲

BEVERLY THROATLESS SHEARS

MAKE CUTS LIKE THESE

QUICKLY... EASILY... ACCURATELY

18 ga. metal cut with Model B-1 Shear.

Save time, labor and material—use a Beverly to make any cut . . . straight, curved or irregular in any metal. Exclusive design allows work to be turned at any angle while cutting. Standard in the industry for years. 4 models—capacities to ⅛" mild.

See your Beverly Distributor for a demonstration. Write for FREE illustrated circular on Beverly metal cutting Shears.

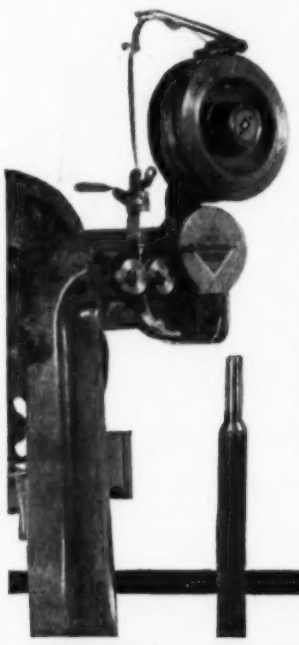
MODEL B-3 with ball bearing hold down. Cap. ⅜" mild; 10 gauge stainless.

Beverly SHEAR MFG. CO.
3016 W. 111th STREET • CHICAGO 42, ILLINOIS

▲ For more details circle NED-811 D4 on enclosed inquiry slip ▲

Add an Acme Steel 25-pound coil holder
to your present wire stitching equipment

Stitch 2½ times longer without stopping



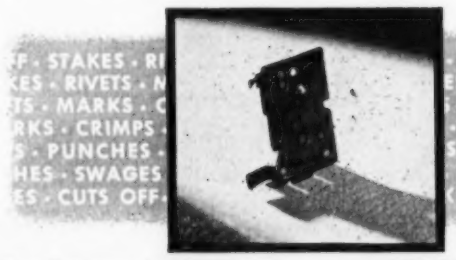
The rugged new Acme Steel 25-pound coil holder means less down time on your wire stitching operations, both because it holds 2½ times as much wire as the conventional 10-pound coil holder, and because it's easier and faster to load. Features are tangle-free wire feed and positive shoe-type brake. For details, write Acme Steel Products Division, Dept. NED-44, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

STITCH IT... STRAP IT... SHIP IT... SAFELY!

ACME STEEL

▲ For more details circle NED-812 D4 on enclosed inquiry slip ▲

ELECTROSTAKE CUTS COSTS
at Eastman Kodak



The Eastman Kodak Company uses ELECTROSTAKE—the automatic solenoid-operated staking machine—to stake shutter parts for Brownie Hawkeye cameras. ELECTROSTAKE presses the assemblies together—then *automatically* delivers the staking blow. Better control of the impact cuts scrap . . . and because ELECTROSTAKE is faster and simpler to use, operators are able to stake far more shutter parts than they could on foot-powered machines.

Delivers impacts up to 3500 lbs.—hold-down pressure can be pre-set from 0 to 20 lbs. Economical to buy, operate and maintain. Plugs into any 115 V., A.C. outlet.

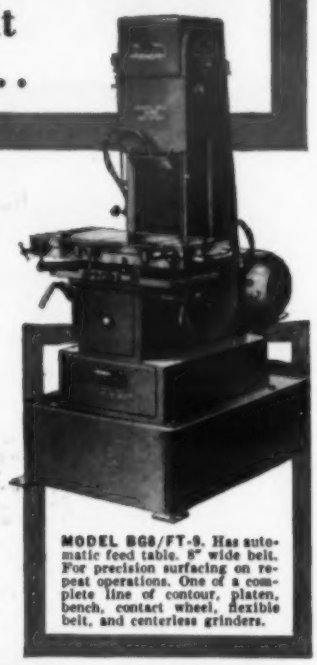
Write — or phone BIgelow 4-6370 — for folder showing complete line of Black & Webster electric production tools.

BLACK & WEBSTER, INC.

Dept. 1, 445 Watertown Street, Newton 58, Mass.
Solenoid-operated Production Tools

▲ For more details circle NED-813 D4 on enclosed inquiry slip ▲

How to CUT COSTS with Abrasive Belt Grinding . . .



Abrasive Belt Grinding does many milling, shaping, polishing and grinding jobs 30% *to* 80% *faster* than presently-used machines. Simplifies fixtures—often eliminates them entirely. Frequently saves 75% to 90% of former set-up time.

Let us prove that an Abrasive Belt Grinder can cut your machining costs. Send us sample pieces for recommendations—or ask to have one of our production engineers call to discuss your problems at your plant. Free 32-page case history booklet on request.

MODEL BG8/FT-9. Has automatic feed table. 8" wide belt. For precision surfacing on repeat operations. One of a complete line of contour, platen, bench, contact wheel, flexible belt, and centerless grinders.

ENGELBERG

THE ENGELBERG HULLER CO., INC.
164 Seneca St.
Syracuse, N. Y.

Manufacturers of Foster Cable Abrasive Belt Machines

▲ For more details circle NED-814 D4 on enclosed inquiry slip ▲

NAME THE CLEANING JOB

. . . you'll save every time with a WHEELABRATOR®

Wheelabrator . . . the modern centrifugal method of airless abrasive blast cleaning slashes costs and cleaning time. Conserves power, labor, space. Its cleaning perfection results in longer tool life, faster machining and inspection.

Thousands are in use for cleaning castings, forgings, heat treated parts, stampings, weldments; plastic deflashing; cleaning used auto parts, drums, pipe, valves, floor scrubbers; descaling steel strip, sheet, plate, etc.

26 standard sizes and models plus numerous Special Designs available for every cleaning need. Write for Catalog 74-B.

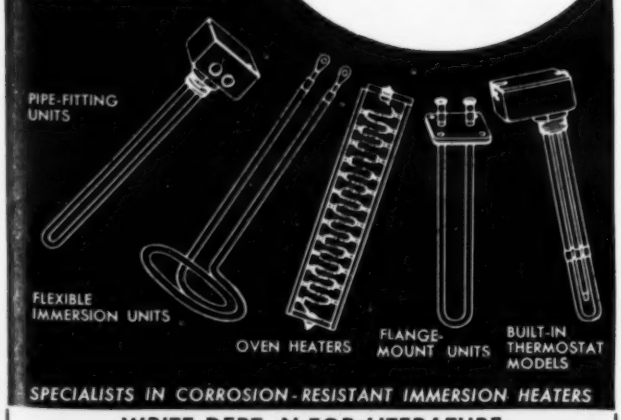
American WHEELABRATOR & EQUIPMENT CORP. | 508 S. Byrkit St., Mishawaka, Indiana

▲ For more details circle NED-815 D4 on enclosed inquiry slip ▲

THERMALINK Electric HEATING ELEMENTS

OVER 600 STANDARD MODELS & TYPES

IMPROVE YOUR ELECTRICALLY HEATED PRODUCTS AND EQUIPMENT WITH THERMALINK ELEMENTS



SPECIALISTS IN CORROSION-RESISTANT IMMERSION HEATERS

WRITE DEPT. N FOR LITERATURE
ELECTRO-THERM INC.
931 SELIM ROAD, SILVER SPRING, MARYLAND

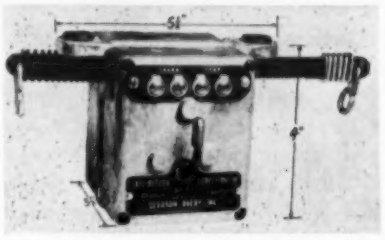
▲ For more details circle NED-816 D4 on enclosed inquiry slip ▲

METAL DETECTOR
protects machines and equipment

Sensitive to ferrous and nonferrous metals, the Dings electronic metal detector will detect even minute metal particles by signaling their presence. Device is built in two basic types, for general industrial service and for deep burden service such as mining. Wide range of signal and reject system arrangements is available for use with the detector to provide automatic detection with manual, semiautomatic or fully automatic rejection of tramp metal. Included are arrangements for handling both bulk and packaged materials. Made by **Dings Electronics, Inc.**, 4758 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-817 D4 on enclosed inquiry slip ▲

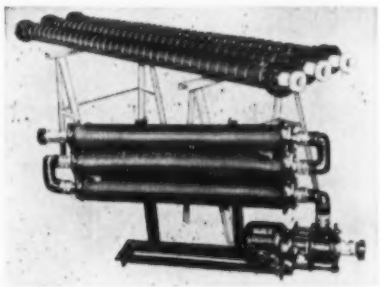
MOTOR ASSEMBLY
power converted into lateral motion



Switches, levers and other mechanical devices can be actuated electrically by No. 311 Safe-Return motor assembly, a unit equipped to convert power taken from the drive shaft of a high speed fractional horsepower induction motor into lateral motion. This is done through a rack that can be made to travel as much as 12 in. either right or left. Rack is returned to normal position by spring loading or a counterweight when the circuit is de-energized. Approximately 25 lb can be raised 4 in. in 30 seconds. Unit is available for 20-V or higher applications on 25, 50 or 60-cycle current. Made by **Gleason-Avery, Inc.**, 49 Aurelius Ave., Auburn, N. Y.

▲ For more details circle NED-818 D4 on enclosed inquiry slip ▲

HEAT EXCHANGERS
with corrosion resistant tubes



Camac tantalum jacketed heat exchanger shown is designed for chrome plating use, but is suitable for other acid heat exchanger applications. Stainless steel, Karbate, nickel and black iron are among other materials which can be used in the tubes if the application requires. Tantalum unit is equipped with plastic spool pieces of Polycam at the ends. Other plastic materials are provided to handle other acids and mixtures. Illustrated unit has a standard Karbate pump and exchanger unit. Made by **Carl Buck & Associates**, Dept. NED, P. O. Box 267, Essex Fells, N. J.

▲ For more details circle NED-819 D4 on enclosed inquiry slip ▲

STEAM TRAP
¾ to 1¼-in. sizes for up to 150 psi

Available in complete range of sizes from ¾ to 1¼ in. and suitable for pressures up to 150 psi, Heat-Kwik inverted bucket steam traps permit fast heating up of steam consuming equipment. Units have separate orifices for condensate and air. When trap is cold, bellows type air orifice is wide open and handles large quantities of air rapidly. After air has been removed, bellows expands and closes the orifice. Units require a trap factor of 2:1 maximum and can be opened for inspection and servicing without removal from the pipeline. Valve and seat are corrosion resistant chrome-nickel alloy, other working parts are stainless steel. Made by **V. D. Anderson Co.**, Dept. H, 1935 W. 96th St., Cleveland 2, O.

▲ For more details circle NED-820 D4 on enclosed inquiry slip ▲

standardize on standard

HALLOWELL® WORK BENCHES

HALLOWELL FEATURES

- Sturdy, rigid—require no bolting to floor
- 4 lengths, 3 widths, 3 heights—all standard
- 3 top materials—steel, Presdwood on steel, laminated wood
- Use them as single units or continuous benches of any length
- Functional design, neat appearance

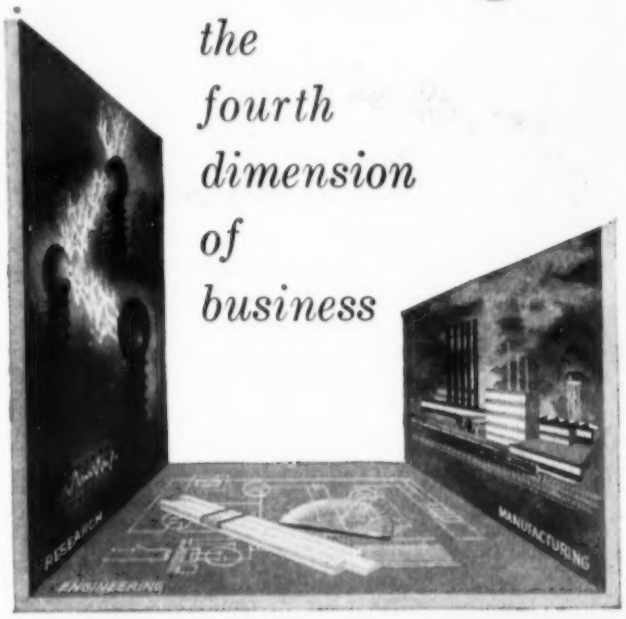
Standardized construction with *standard* accessories permits you to *custom build* HALLOWELL benches to fit your requirements. Stocked and sold by industrial distributors. Write for literature. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

HALLOWELL SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-821 D4 on enclosed inquiry slip ▲

Service

the fourth dimension of business



Here, at the Scintilla Division of Bendix, the word SERVICE is much more than the name of a department. It is a vitally important part of our over-all operations. Together with Research, Engineering and Manufacturing—Service might well be termed the fourth dimension of our business.

To implement this policy of following through to see that every customer gets the full performance built into each product, the Scintilla Division has a world-wide service organization backed up by factory-trained service men strategically located to meet service emergencies.

Service data, covering installation, operation and repairs as well as adequate distribution of parts, makes up a complete service program.

Just another reason why the name Bendix has become "The Most Trusted Name in Ignition."

Bendix

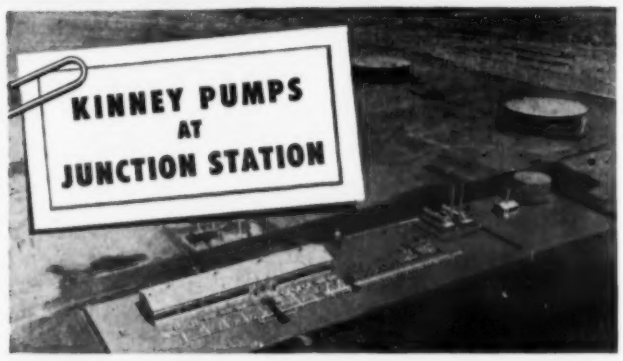
SCINTILLA DIVISION OF Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 205 East 42nd St., New York 17, N.Y.

Factory Branch Offices:
117 E. Providencia Avenue, Burbank, California • Brouwer Building, 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • Stephenson Building, 6560 Cass Avenue, Detroit 2, Michigan • 512 West Avenue, Jenkintown, Pennsylvania • 8401 Cedar Springs Rd., Dallas 19, Texas • American Building, 4 South Main Street, Dayton 2, Ohio

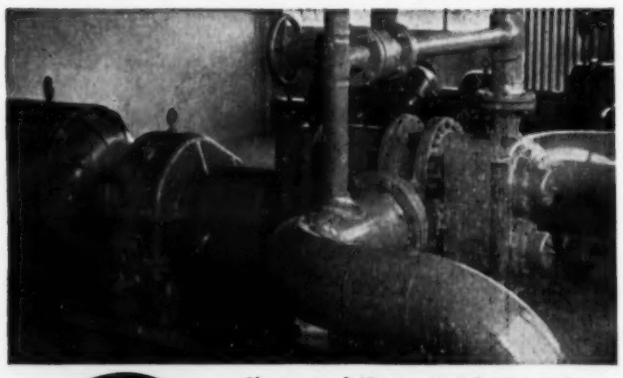
▲ For more details circle NED-822 D4 on enclosed inquiry slip ▲

For more details circle NED-823 D4 on enclosed inquiry slip



The West's most modern pumping station — Union Oil Company of California's Junction Station — uses the world's most dependable pumps — Kinney Model HQA Heliquad Rotary Pumps. These smooth-pumping units contribute their part to the over-all smooth operation of this up-to-the-minute pumping station.

For positive displacement pumping at its best, whether the viscosity is high or low, it pays to pick Kinney Heliquads. Available in iron, steel, or bronze constructions, with displacements from 20 to 2700 GPM — for pressures from 50 to 300 psig depending upon type of liquid and size of pump. Send for complete details. Kinney Mfg. Division, Boston 30, Mass. Representatives in principal cities of the United States and foreign countries.



Kinney

Close up of Kinney Model HQA Heliquad Rotary Pump at Junction Station showing main pump line, manually operated by-pass, and automatic, pressure relief by-pass. Kinney Pumps furnished complete with bases, motors, and gear reduction units.

KINNEY MFG. DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612 WASHINGTON STREET • BOSTON 30 • MASS.

Please send Bulletin L-51 describing complete line of Kinney Rotary Liquid Pumps.

Name .....
Company .....
Address .....
City ..... State .....

For more details circle NED-824 D4 on enclosed inquiry slip

SOFT ALUMINUM RESPIRATOR
designed for simple dust problems

Soft aluminum mask to which filter pads are attached makes this No. 84 respirator practical for simple dust problems. Mask is lightweight and forms to face for comfortable, firm fit. Respirator which retails for less than 50 cents is made by **Sellstrom Mfg. Co.**, 654 N. Aberdeen St., Chicago 22, Ill.

For more details circle NED-825 D4 on enclosed inquiry slip

FOUR-WAY VALVE
solenoid controlled, pilot operated

Solenoid controlled pilot operated four-way valve is available in ½ and ¾-in. sizes for volumes up to 20 gpm and operating pressures up to 2000 psi. It is fabricated in QF, QM and QJ series in two position (no spring), spring centered and spring offset models. Solenoid covers are gasketed to protect from moisture and dirt, and built-in terminal box offers easy access for installation and service. Two position model offers optional spool locking device to prevent spool shifting due to vibration or pressure in drain line. Valves can be easily converted from one model to another and are available with full selection of spool types, throttle chokes to control shifting speed and in a complete voltage range. Made by **Double A Products Co.**, Manchester, Mich.

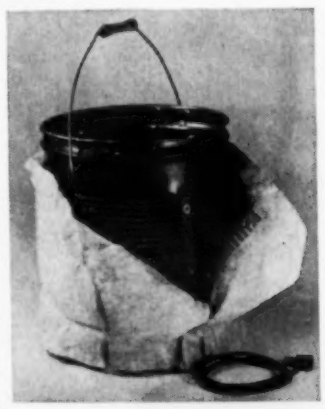
For more details circle NED-826 D4 on enclosed inquiry slip

PAINT CONTAINER ADAPTER
permits spray-painting right from can

Improved paint container adapter provides an efficient method of spraying paint, varnish or lacquer direct from original 5-gallon container. It consists of two aluminum plates which are joined together around the container by wing-nutted hinged vertical rods. Top plate is fitted with gage, regulator, safety valve and agitator assembly. Neoprene washer gives airtight seal to permit pressurization of container. Ten pounds of pressure are sufficient for efficient operation of unit, which can be used with any standard spraying equipment. When less than 5 gallons of paint are to be used, a smaller can is placed inside the 5-gallon unit and regular procedure followed. Made by **Silver-King Corp.**, Dept. PC, Aurora, Ill.

For more details circle NED-827 D4 on enclosed inquiry slip

ELECTRIC HEATERS
for 5-gallon drums



Wrap-around jacket type electric heaters are designed to apply heat uniformly around the sides of 5-gallon drums and are especially suitable for substances that might be damaged by overheating. Pre-Fab heaters are constructed of alloy resistance wire insulated for electrical safety and covered with an outer braid for wear resistance. They wrap around the drum and are held secure by snap fasteners. Illustrated is a 300-w unit for heating plastisols. It is insulated with glass and silicone, has a tough nylon outerbraid and plugs into a 115-v circuit. A wide variety of sizes and ratings can be built to suit specific conditions. Made by **Pre-Fab Heater Co.**, Guilford, Conn.

For more details circle NED-828 D4 on enclosed inquiry slip

NEARLY $7,000.00 SAVED!

$597.50 SHORT-RUN TOOLING COST CHEAPER THAN HANDMADE MODELS—RISK MINIMIZED
. . . reported by Revco, Incorporated

A $7,500.00 permanent tooling outlay would have been necessary to produce two experimental models of a larger Revco "Zero-Max" variable speed transmission. Or make the pilot models by hand. The entire Federal tooling job cost $597.50, *less than what it would have cost Revco to make the models by hand.*

84 ACCURATELY STAMPED PARTS COST REVCO ONLY $9.86 PER TRANSMISSION—11.8c PER PART—USING FEDERAL'S "CLOSE TOLERANCE" SHORT-RUN STAMPING PROCESS.

"The parts received from Federal," states Revco President, Richard G. Gray, "were as clean and as accurate as if they were produced on permanent tools."

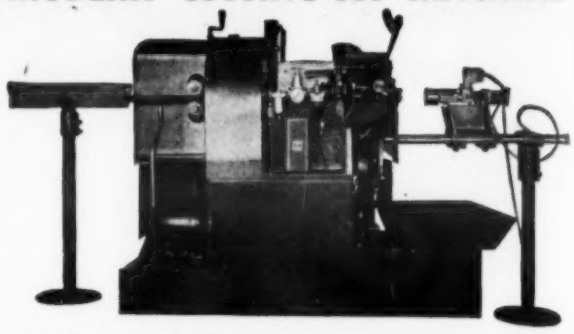
see our catalog in PRODUCT DESIGN FILE or write for copy

Get a tooling or stamping problem? Complete information is contained in Bulletins 101 and 161. Write for them.

Federal TOOL AND MANUFACTURING CO.
3618 ALABAMA AVE. (ST. LOUIS PARK)
MINNEAPOLIS, MINNESOTA
"QUALITY STAMPINGS IN SMALL QUANTITIES"

For more details circle NED-829 D4 on enclosed inquiry slip

MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machine — *any length you want.* FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

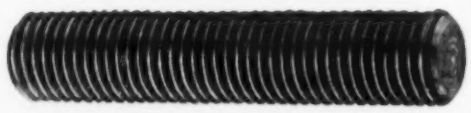
½" Tubing Cuts and Chamfers both outside edges of ½" .030 wall tubing, 5" lengths, every 2.5 seconds.

1¼" Cold Rolled Cuts and Chamfers both ends, 20" long, at rate of 1 every 20 seconds.

1" Tubing Cuts and Chamfers both outside edges, pieces 3" long. One every 3 seconds.

4" THREADED STUDS

Modern Automatic Cutting-Off Machines available in 4 sizes, handling work up to 6¾" O.D.

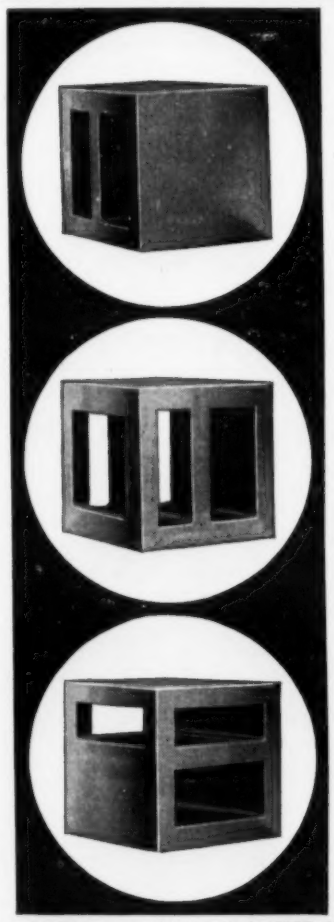


WRITE FOR CATALOG

Cut and chamfered at one time—in 8 sec.—from 10 ft. length of stock already threaded (¾" U. S. Standard). Clean cut. Clean chamfer. Nuts start easily, with no extra finishing required.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

For more details circle NED-830 D4 on enclosed inquiry slip



3 IN 1
COMBINATION TOOL
CHALLENGE UNIVERSAL BOX ANGLE

This new versatile tool has the clamping facilities of an *angle iron* . . . the stability, balance and accuracy of a box *parallel* . . . the perpendicular flat surface of an angle plate. Made of high grade special analysis semi-steel, heat treated and precision ground. Furnished in two sizes — 6x6x6 and 8x8x8 inches. Other sizes can be made to order.

747

Challenge TRADE-MARK ®

THE CHALLENGE MACHINERY COMPANY
Office, Factories and Show Rooms
Grand Haven, Mich.

For more details circle NED-831 D4 on enclosed inquiry slip

. . . your best
INSURANCE
against
alignment troubles

LOVEJOY
FLEXIBLE COUPLINGS

—offer the best obtainable insurance against alignment troubles—dampen and absorb starting torque, vibration and shock of intermittent loads—protect motor and driven machine—lengthen bearing life. LOVEJOY Flexible Couplings are ruggedly constructed, durable, and provide excellent resiliency. Bodies are carefully machined. Cushions available in materials suited to the particular load conditions . . . can be changed without shutdown. No lubrication needed. Write today for Catalog and Handy Selector Charts.

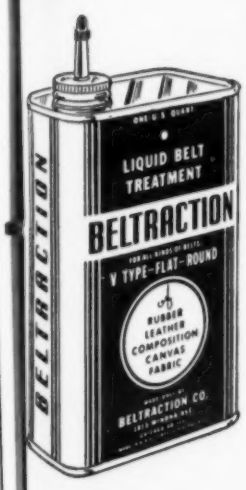
WRITE TODAY FOR CATALOG AND HANDY SELECTOR CHARTS

LOVEJOY FLEXIBLE COUPLING CO.
4803 W. LAKE STREET CHICAGO 44, ILLINOIS
Also Manufacturers of Lovejoy Universal Joints and Variable Speed Transmissions

▲ For more details circle NED-832 D4 on enclosed inquiry slip ▲

STOP WASTE CAUSED BY *Belt Slippage!*

Treat Belts Regularly with
BELTRACTION
LIQUID BELT TREATMENT



When the belts that drive your drills, punch presses, grinders, compressors, lathes and other machinery slip, you waste not only power and fuel but also time. A slipping belt can reduce machine output as much as 70%.

BELTRACTION Liquid Belt Treatment prevents belt slippage and permits increased feeds and speeds and assures greater output per machine. Use BELTRACTION regularly for increased profits. Order some today! Write for descriptive folder.

BELTRACTION COMPANY
1817 W. Winona St. Chicago 40, Ill.

FOR ALL TYPES OF BELTS • V-TYPE, FLAT OR ROUND

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Prevent STARTING STALLS

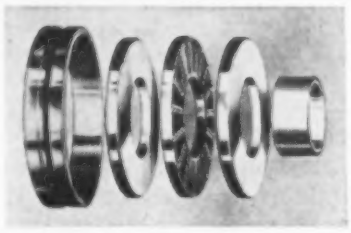
with Twin Disc HYDRO-SHEAVE® Drives

In thousands of diversified applications the HYDRO-SHEAVE Drive, slipped on the end of motor shaft, permits *smoother* acceleration—*eliminates* motor stalls and burnouts. Sizes for motors and engines from ¾ to 50 hp.

Only HYDRO-SHEAVE Drives provide exclusive *Double-Circuit* fluid coupling design for full torque output, maximum shock absorption, less overall diameter with greater capacity.

▲ For more details circle NED-834 D4 on enclosed inquiry slip ▲

THRUST ROLLER BEARING
for use with worm gear assemblies



Design change in the type SDT thrust roller bearing for use in worm gear assemblies or reducers or for applications in which direction of thrust is frequently reversed incorporates a one-piece high tensile sleeve of cast iron. One plate rotates and the other is stationary, but with load reversal, the plate action is reversed. Bearings are made with 1 to 11-in. inner sleeve bores. Rated load capacities at 10 rpm range from 10,750 to 1,170,000 lb and at 100 rpm it ranges from 4975 to 543,000 lb. Made by **Rollway Bearing Co.,** 2541 Seymour St., Syracuse 4, N. Y.

▲ For more details circle NED-835 D4 on enclosed inquiry slip ▲

STEEL STRAPPING STRETCHER
pneumatic tools give uniform tension

Designed for use where uniform predetermined tension is required in production steel strapping operations, pneumatically powered stretching tools handle strap widths from ⅜ to ¾-in. and strap thicknesses from 0.010 to 0.023-in. They apply each strap with exactly the same tension, and will take up any amount of slack using rotary gripping dogs. Tension is set by an adjustable air pressure regulator. Units range in weight from 3½ to 9½ lb. Made by **Acme Steel Co.,** 2822 Archer Ave., Chicago 8, Ill.

▲ For more details circle NED-836 D4 on enclosed inquiry slip ▲

HERMETIC MOTOR-COMPRESSORS
quiet twin cylinder type units

Four sizes of twin-cylinder welded hermetic motor-compressors for window air conditioners feature low noise level, solid bronze rods and bearings for long wear and one-piece casting for motor and bearing alignment. Motor starting relays are current type on the ½ and light ¾-hp models and potential type on the heavy ¾ and 1 hp models. Sensitive three-terminal overload protector is incorporated. Suction and discharge mufflers are built in. Use of F-12 refrigerant results in low operating temperatures. Made by **Copeland Refrigeration Corp.,** 100 Clinton St., Sidney, O.

▲ For more details circle NED-837 D4 on enclosed inquiry slip ▲

REMEMBER THE NAME . . . Rubyfluid
the easy-to-use Soldering Flux for neat, strong unions.

Use Rubyfluid Flux—liquid or paste—to get neat, strong unions speedily and easily. Rubyfluid is a special fast acting formula, wets out freely, is free from harmful and objectionable fumes, economical to use. Try it—send $1 for special offer—1 pt. liquid, ½ lb. paste flux and helpful booklet.

For Stainless Steel use *Ruby's Stainless Steel Flux,* perfected for that metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

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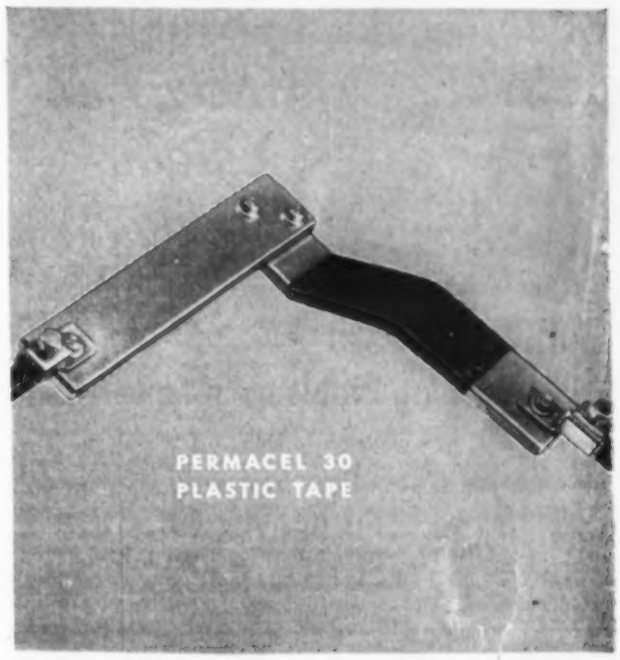
For Insulating Bus Bars



PERMACEL TAPES

Find out how you can use self-sticking tape...write Permacel Tape Corporation, New Brunswick, N. J.

▲ For more details circle NED-839 D4 on enclosed inquiry slip ▲

keep costs down

with accurate job time records

CALCULAGRAPH

FIGURES ELAPSED TIME ACCURATELY

PRINTS DATE
STARTING TIME
FINISHING TIME
TOTAL ELAPSED TIME

Keep production costs in line with automatically computed, precision Calculagraph job time records. Just stamp card at beginning and ending of the operation. Calculagraph prints date, starting and finishing time plus precision calculated elapsed time. One Calculagraph can record and compute job time data for one entire shop or department by handling any number of cards in any sequence. Accurate, printed Calculagraph records can be filed for future use in estimating on new orders and checking production efficiency. Calculagraphs are low in cost, practically maintenance-free and built for a lifetime of dependable service.

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SUSSEX STREET, HARRISON, NEW JERSEY

Send complete data on Calculagraph to: 302

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-840 D4 on enclosed inquiry slip ▲

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Learn How Roto-Finish Can Solve Your Finishing Problems at Lower Costs

Here's a new, fully illustrated catalog that shows you how you can improve the surface of your products at lowest costs with Roto-Finish, an original precision tumbling process. Learn how you can save money and manpower with Roto-Finish's wide choice of machines, equipment and materials that combine with Roto-Fninsh's Engineering Service and "know-how" to give you a practical solution to your finishing problems. Prove it to yourself. *Write for your free copy today.*

Roto-Finish COMPANY
associated with The Sturgis Products Co.
3702 Milham Rd., Kalamazoo, Mich., P. O. Box 988, Ph. 3-5578
ORIGINATORS OF THE ROTO-FINISH PROCESS
For more details circle NED-841 D4 on enclosed inquiry slip

- **For DIE HANDLING**
- **SHEET FEEDING**
- **WORK POSITIONING**
- **Supporting OVERHANGING WORK**

RAYMOND

Portable, Hydraulic ELEVATING TABLE

- Increase production . . . decrease hazards . . . with a RAYMOND Portable Elevating Table. This sturdy table raises or lowers work to the most convenient working level. Use it for positioning and handling throughout your plant.
- The RAYMOND Portable Elevating Table is hydraulically operated . . . features convenient foot pump operation, leaving the operator's hands free. 30" square top can be rotated if desired. Smooth-rolling casters make table highly portable. Floor lock enables it to be held securely in place. Standard Model elevates 28" to 44" . . . Telescopic Model, 28" to 50". Both have 2,000 lb. capacity.
- SEND FOR CATALOG Get full details on the RAYMOND Portable Elevating Table. Mail coupon for Hydraulic Elevating Equipment Catalog today!

The RAYMOND CORPORATION
4130 Madison St., Greene, N.Y.
Please send me Hydraulic Elevating Equipment Catalog.
NAME_____ TITLE_____
COMPANY_____
STREET_____
CITY_____ STATE_____
For more details circle NED-842 D4 on enclosed inquiry slip

New Literature and Catalogs

Bin Level Indicators

Bin-Dicator Co.—Pressure-actuated bin level indicators which show the level of granular, pulverized and semiliquid materials stored in tanks, silos, hoppers and bins are described in 18-page form BD-5A. Complete installation data for various types of units, for thick or thin-walled bins, inside or outside locations and for suspended interior installations, are supplied.

For more details circle NED-843 D4 on enclosed inquiry slip

Control Centers

Arrow-Hart & Hegeman Electric Co.—Electrical and construction details of space-saving Arrow-Hart control centers and their components are subject of descriptive 12-page bulletin 170. Control centers consist of number of combination motor starters each housed in separate compartment which is part of dead-front, factory-framed panel section ready for installation.

For more details circle NED-844 D4 on enclosed inquiry slip

Drilling & Tapping Machine

Edlund Machinery Co.—Latest developments on variable speed drilling and tapping machine are revealed in 8-page bulletin 140 which also gives specifications, construction features and ordering information. Featuring infinitely variable speed selection, Model 2F has power feed on first two spindles, hand feed on third and reversing motor tapper on fourth spindle. This is one of many possible arrangements.

For more details circle NED-845 D4 on enclosed inquiry slip

Ball Bearing Die Sets

Lempco Products, Inc.—Complete line of ball bearing die sets now available at their lowest prices since the war are shown in the seventh edition of Lempco's die set catalog. Die sets, which operate at zero tolerance, are priced no more than 15 per cent above friction-type sets.

For more details circle NED-846 D4 on enclosed inquiry slip

Steel Concrete Forms

Blaw-Knox Co.—50-page bulletin 2430 on "Blaw-Knox Steel Forms for Concrete Construction" is descriptive of a wide variety of form types and uses. More than 50 photos illustrate forms used on circular conduits; arched and box conduits; vehicular tunnels, railway tunnels and subways; flood, retaining and sea walls; circular tank and other walls for sewage disposal plants; caissons and shafts; dams; and bridge centerings.

For more details circle NED-847 D4 on enclosed inquiry slip

Adjustable Loading Ramps

Rowe Methods Inc.—Adjustable loading ramps available in two basic types are detailed in new brochure. The Adjust-A-Dock is designed to become part of, or extension of existing docks, while Adjust-A-Truck units are built into pavement in front of loading dock. Either dock or truck itself can be adjusted to same level.

For more details circle NED-848 D4 on enclosed inquiry slip

Two-Wheel & Platform Trucks

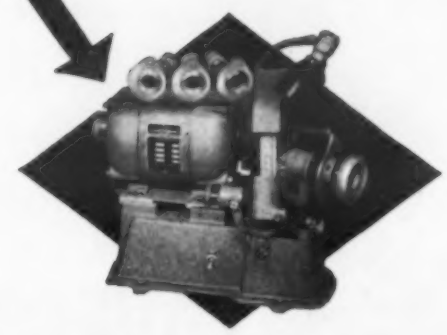
Fairbanks Co.—Photos, structural details, specifications and complete information on over 50 models of two-wheel and platform trucks are contained in 32-page catalog T-54. Two-wheel hand trucks, steel-framed platform trucks, jack platform trucks, wagon trucks and dollies are covered. Feature is average load rating chart showing best loading from 200 to 4000 lb for all types of units.

For more details circle NED-849 D4 on enclosed inquiry slip

Air-Operated Ejector Pump

Ferro Corp., Supplies Div.—6-page illustrated bulletin gives operating details and application data on new Ejectopump. This compressed air operated pump handles liquids, slurries, viscous fluids and hot or cold solutions. Models are available in 1½ to 6-in. sizes for deliveries of 400 to 9000 gph. Normal suction is up to 10 ft, but 20 ft can be handled. Discharge heads range to 50 ft. Ejectopumps are particularly suited for use in chemical, abrasives, marine, food, rubber, paint and oil industries.

For more details circle NED-850 D4 on enclosed inquiry slip



SHARPENS SMALL DRILLS ACCURATELY — WITHOUT SKILL!

The *Black Diamond Drill Grinder* is the only drill grinder so fast and easy to operate. Used regularly by thousands! Enables anyone to grind small drills to absolute accuracy.

- Exclusive "positive positioning" assures precision grinding.
- No skill required by operator.
- Both lips ground in one operation.
- Web thinning made easy with special attachment.

Get all the details! Send for folder.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
72 North Ave., Natick, Mass. OLympic 3-4480
For more details circle NED-851 D4 on enclosed inquiry slip

new method of **process heating** and **cooling**

***saves 50%**

- *in initial cost
- *in heating and cooling time
- *in tank space
- *in maintenance labor

Each member of your buying committee should have this book which tells how Platecoils satisfactorily solve tank heating and cooling problems . . . and at the same time save time, money and manpower.

PLATECOIL REPLACES PIPE COILS

Write for your free copy of Bulletin P57 today!

TRANTER MANUFACTURING, inc., LANSING 4, MICH.
For more details circle NED-852 D4 on enclosed inquiry slip

Leaking Air is an expensive luxury

If you can't afford it, HILLS-McCANNA *Saunders Patent* **diaphragm valves will put an end to it!**

WRITE FOR LITERATURE

HILLS-McCANNA
Saunders Patent
diaphragm valves
HILLS-McCANNA COMPANY • 2455 Nelson Ave., Chicago 16, Ill.
For more details circle NED-853 D4 on enclosed inquiry slip

NEW ONE MAN SPEED INDICATOR
quickly checks motor RPM

Now one man can quickly & accurately check all your motor speeds with this combination revolution counter & stopwatch, and in a fraction of the time it would take two men with old fashioned counters.

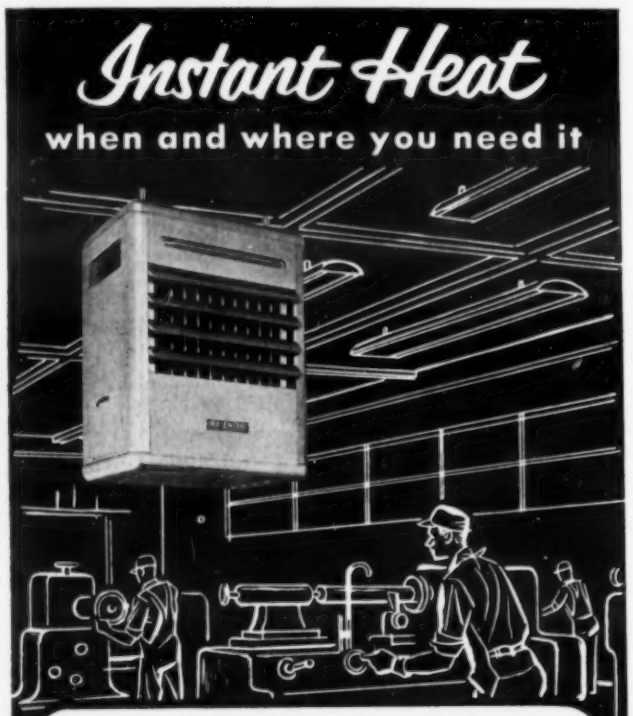
Hundreds of users like Alcoa, GE, Westinghouse etc., report they save their initial cost many times over in spotting motor trouble before it becomes serious; checking conveyor and machine speeds; making sales demonstrations of motorized equipment; curbing tool breakage due to wrong speeds; etc. Three models, priced from $18.75, speed ranges to 50,000 RPM. Write, check inquiry slip —— or phone today for detailed pamphlet with specifications, and prices. Immediate delivery.

MONTGOMERY TOOLS

24 Austin St.
Newark 5, N. J.
BIgelow 8-1045

For more details circle **NED-854 D4** on enclosed inquiry slip

Instant Heat
when and where you need it



When you heat your plant with Reznor gas-fired unit heaters, the heat you need is produced at the point of use. Each Reznor unit reacts instantaneously to the requirements of its immediate surroundings. That's the key to heating economy.

You don't have to maintain the constant stand-by firing required by a central heating system. Automatic Reznor heat is instant heat. You don't have to pour extra heat into areas which don't need it. Each Reznor heater acts independently, goes to work only when heat is really needed nearby.

There's no time lag between the moment of need and the moment of delivery. It's easy to maintain an even, comfortable temperature. And because Reznor heat is produced on the spot you save the fuel dollars wasted on heat lost in transmission.

Unit heater economy and flexibility make this method of heating the outstanding choice for new industrial construction. In older plants Reznor unit heaters offer the same advantages when used for supplemental heating. For offices and other areas where higher temperatures are needed, for outlying buildings which cannot practically be reached by a central heating system, and for trouble spots such as areas facing large doors, Reznor unit heaters are the answer.

Before you make any heating decision check the Reznor catalog in Sweet's Plant Engineering File or write to the **Reznor Manufacturing Company, 41 Union Street, Mercer, Pa.**

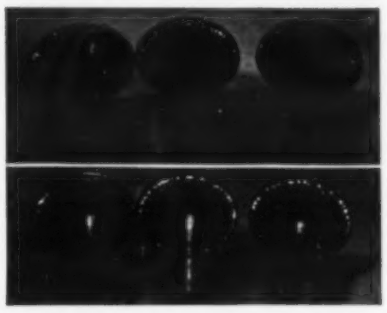
THE WORLD'S LARGEST-SELLING GAS UNIT HEATER

REZNOR HEATERS

For more details circle **NED-855 D4** on enclosed inquiry slip

New Processes and Materials

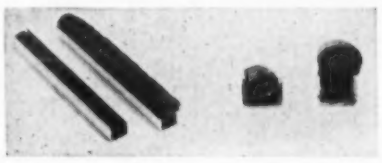
FLUORESCENT PENETRANT INSPECTION
improved process is more sensitive



Scope of fluorescent penetrant inspection process is broadened and sensitivity increased by Zyglo-Pentrex penetrant, which readily locates both very tight cracks and broad shallow defects. Illustrated tests of refaced diesel valves show location of all defects (bottom), while former method brought out only the middle range of defects (top). Emulsifier is added after penetration in a separate dip, and both emulsification time and washing can be controlled to suit the particular defect or part. While new process gives increased penetrating power with more concentrated dyes, it retains simple dipping steps and water spray washing and lends itself to either low or high volume automatic setups. Made by **Magnaflux Corp.**, 7316 W. Lawrence Avenue, Chicago 31, Ill.

For more details circle **NED-856 D4** on enclosed inquiry slip

EXTRUDED RUBBER SEALER
expands up to 2¼ times when heat cured or can be used without heat



Applied in the form of a flexible rubber strip, EC-1209 extruded rubber based sealer cures and expands when heated to form a uniform gasket-like material between metal surfaces. It can be used to seal out water, dust and dirt, as a cushion to prevent rattles and squeaks, and to seal seams of non-uniform width.

Amount of volume increase depends on time and temperature used in the curing process. For example, 40 minutes at 250° F will produce a swell of 70 to 80 per cent, while a 15-minute cure at 350° F will cause swelling to nearly 125 per cent. It remains flexible at −20° F and has long life at 150° F. Curing can take place in paint drying and baking ovens as it does not require a separate heating cycle.

Sealer also provides a good seal mechanically even if heat is not used. Normal packaging is in 30-in. lengths of ¼-in. diameter material, with each box containing 810 linear feet. Made by **Minnesota Mining & Mfg. Co.**, Adhesives & Coatings Div., Dept. NED, 423 Piquette Ave., Detroit 2, Mich.

For more details circle **NED-857 D4** on enclosed inquiry slip

NOW greater versatility greater efficiency

with Wells Metal Cutting Band Saws

featuring an Expanded Range of Cutting Speeds

WELLS NO. 8 WITH WET CUTTING SYSTEM, NO. 5 IS SIMILAR

TO IMPROVE cutting efficiency and production, three models of the Wells Metal Cutting Band Saw line are now available with expanded range of cutting speeds as standard equipment.

The new cutting speeds coupled with such proved Wells advantages as sturdy construction, ease of operation, real dependability and low cost make these machines even more profitable for you to use. Ask your Wells Dealer for full information or write, requesting catalog G-52 giving specifications and design details for all models.

See us in Booth 1447
A.S.T.E. Show

Products by Wells are Practical

Wells

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1313 HARDING ST., THREE RIVERS, MICHIGAN

For more details circle **NED-858 D4** on enclosed inquiry slip

PLAY SAFE ON STAIRWAYS with BIL-JAX MAINTENANCE TRESTLE

It's easy to bridge stairways, terraces, curbings and other obstacles with Bil-Jax maintenance trestle. Work platform is always level . . . always safe!

Ball-bearing casters (locking type) make it easy to maneuver. Patented. U. L. Approved. Distributors in principal cities. Write for catalog.

Address Dept. Z-4
West Coast: 216 W. Los Feliz Rd., Glendale, Calif.
Export Office: 80 Broad St., New York 4, N. Y.

OTHER BIL-JAX EQUIPMENT
Steel Scaffolds, Swing Scaffolds, Putlogs Ladders, Hoisting Towers for sale or rent.

GETS YOU UP IN THE WORLD

BIL-JAX INC. Archbold, Ohio

For more details circle **NED-859 D4** on enclosed inquiry slip

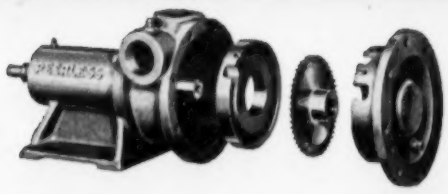
Spindles like These
GIVE YOU PRECISION AND PROFIT FROM YOUR GRINDERS!

Select yours from *hundreds* of Ex-Cell-O precision grinding spindles—all standard models. For years they've been the original equipment choice of leading grinder manufacturers. There's *full information* in the 80-page Ex-Cell-O Spindle Catalog. Write us to send it!

54-9

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

For more details circle **NED-860 D4** on enclosed inquiry slip



EXPLODED VIEW shows easy accessibility to one moving part—the free-running impeller

Request Bulletin No. B-2205 for complete description and pump selection charts

VANE TYPE TURBINE PUMPS
FOR BOILER FEED & LP GAS TRANSFER

Face-Mount and Flexible-Coupled Types

For pumping hot and cold, clear and vaporous liquids. Standard and self-priming models for pumping capacities up to 58 gpm and against heads up to 800 ft. Used for liquid circulating, transfer and boosting, boiler feed and condensate return service. Easy and economical to apply, operate & maintain.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
301 West Avenue 26
Los Angeles 31, California

PEERLESS PUMPS

New York; Indianapolis; Chicago; St. Louis; Atlanta; Dallas, Plainview and Lubbock, Texas; Los Angeles, Fresno, Calif.; Phoenix; Albuquerque, New Mexico.

For more details circle **NED-861 D4** on enclosed inquiry slip

Clue to a clean-up in purchasing manhours

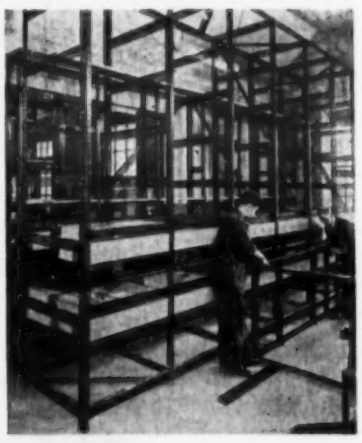
THE worker's "OK" for brushes comes quick. He simply looks for the name "OSBORN". He knows that this brush is built to get his work done faster . . . and to last longer.

The worker's nod can be your clue to important savings in *purchasing time* too! No need to shop around. No costly red tape. All you need to do is mark your order cards "Buy OSBORN". These brushes are backed by 61 years of OSBORN service to industry; you can buy them automatically with confidence. *The Osborn Manufacturing Company, Dept. Z-16, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

Osborn Brushes

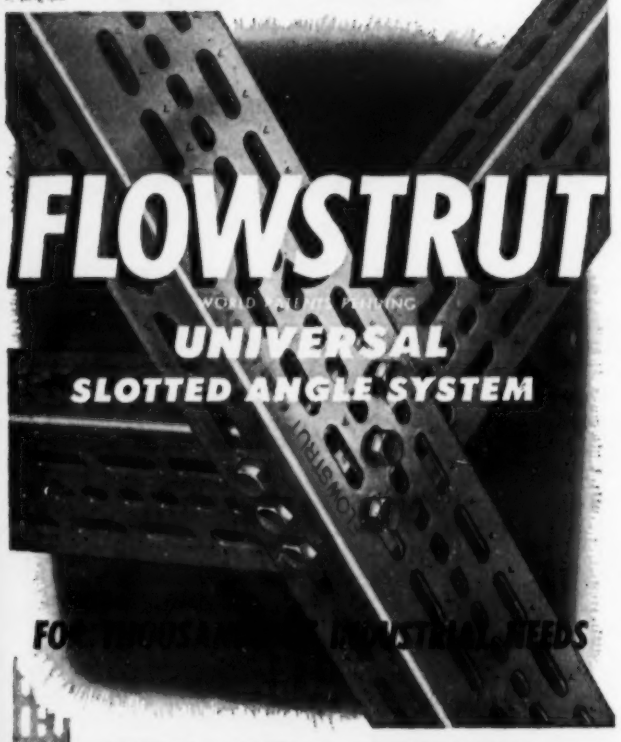
OSBORN BRUSHING METHODS • POWER, MAINTENANCE AND PAINT BRUSHES • BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

For more details circle NED-862 D4 on enclosed inquiry slip



A FLOWSTRUT-BUILT HANGING FILE RACK

. . . affords swift, easy access to folders that stay permanently fresh. And, like all FLOWSTRUT structures, it can be expanded when needed—or completely dismantled and salvaged.



SWIFT! SIMPLE! ECONOMICAL!

No detailed drawings! No tedious measurements! No drilling, welding, riveting or finishing!

- 40 pre-drilled bolt holes per foot
- cutting marks at ¾" intervals
- requires only a wrench and a cutter
- completely salvage-able; stores compactly
- Bonderized baked grey enamel finish
- weather-proof, rust-proof
- standard equipment for your individual requirements

FLOWSTRUT *Write for detailed bulletin today!*

Distributors' Inquiries Invited

FLOWSTRUT CORPORATION
23-25 Leonard Street, New York 13

For more details circle NED-863 D4 on enclosed inquiry slip

New Literature & Catalogs

Fence Painting

Fence Painter Corp.—"How to Use Your FencPainteR" is title of 32-page booklet which illustrates and describes how to paint various fences and wall surfaces with FencPainteR kits. Painting of wire, bar and wood picket fences, stone and brick walls, corrugated surfaces, metal tanks, house siding, inner walls and ceilings is covered. Industrial kits have either 10 or 8-in. applicators.

For more details circle NED-864 D4 on enclosed inquiry slip

Machine Mounts

Barry Corp.—Designed to speed installation and leveling of heavy machinery, Barrymounts are covered in 4-page illustrated bulletin "Look, No Lagging." Various series are available for service ranging from mild to heavy duty in a wide range of load ratings. Bulletin tells how mounts also reduce transmitted vibration and plant noise levels.

For more details circle NED-865 D4 on enclosed inquiry slip

Chain Hoists

Harnischfeger Corp., Hoist Div.—Condensed specifications and illustrations of a full line of chain hoists with ratings ranging from ½ to 25 tons are given in 6-page illustrated folder H-32. Low headroom and army type roller bearing trolleys are also covered, and capsule descriptions are given for three electrically powered units.

For more details circle NED-866 D4 on enclosed inquiry slip

Water Demineralizers

Barnstead Still & Sterilizer Co.—20-page well-illustrated catalog covers a complete line of mixed, two and four-bed water demineralizers for laboratory and industrial use. Units range in capacity from 5 to 2500 gph. Catalog gives dimensions and performance data for all models and provides selection data together with information concerning operation and installation.

For more details circle NED-867 D4 on enclosed inquiry slip

Panel Accessories

General Electric Co.—Oil-tight push buttons, indicating lights, selector switches and other control panel accessories are shown in 16-page illustrated bulletin GEA-5779B. Operation and use of the equipment are covered. Cross-section drawings, full color application photos, dimension and outline diagrams and complete ordering information are furnished.

For more details circle NED-868 D4 on enclosed inquiry slip

Dial-Type Thermometers

Rochester Mfg. Co.—Dial type industrial and laboratory thermometers described in 8-page illustrated bulletin DT-1-54 feature stainless steel welded construction and are available in a wide range of graduations. Bimetallic primary elements combine sensitivity with high degree of accuracy. Accessories such as sockets and extension necks are also covered.

For more details circle NED-869 D4 on enclosed inquiry slip

O. B. I. Presses

Niagara Machine & Tool Works—20-page illustrated bulletin 57A covers series AA open back inclinable presses, fitted with electro-pneumatic clutch and clutch control. Eight models have ratings ranging from 40 to 250 tons. All features and such accessories as variable speed drive and dial, chute and magazine automatic feeds are also described. Specifications include die space dimensions for each model.

For more details circle NED-870 D4 on enclosed inquiry slip

Twist Drills

DoALL Co.—Taper shank, straight shank, three and four fluted drills, drill sets and blanks, countersinks and hardened sleeves are among items covered in 12-page illustrated form No. 51-816, section B-1. Complete data on available size ranges are provided and information is given on drill pointing and web thinning.

For more details circle NED-871 D4 on enclosed inquiry slip

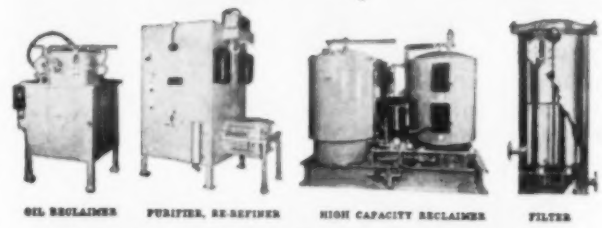
Planned Maintenance Control

Victor Adding Machine Co., McCaskey Register Div.—Step-by-step procedures and ten different order forms for planning, scheduling and controlling maintenance are subject of this bulletin. Forms can be adapted to various requirements.

For more details circle NED-872 D4 on enclosed inquiry slip

HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

Saves You MONEY, OIL and MACHINERY



A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL.

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use.

There is a HILCO to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and Recommendations.

OIL PURIFIER DIVISION

THE HILLIARD CORPORATION
40 W. 4th ST. • ELMIRA, N. Y.
IN CANADA — Upton-Bradeen-James, Ltd.
990 Bay St., Toronto, 3464 Park Ave., Montreal

For more details circle NED-873 D4 on enclosed inquiry slip

CESCO *RIGHT... before your Eyes!*

Assemble Your Own Combinations

Items A, B and C can be used with either items 1 or 2 illustrated above so you can make six different combinations. The old-fashioned way you would buy a helmet and headgear, a shield and headgear, and so on until you had six combinations (twelve items) to do the same thing these five separate pieces will do.

Save buying extra parts... save money. On your next order specify CESCO interchangeable helmets and face shields.

They're—*"Right... before your Eyes."*

Send TODAY for CESCO literature

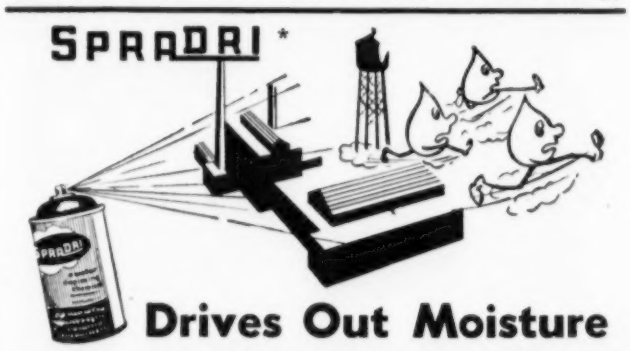
CHICAGO EYE SHIELD COMPANY • 2322 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City D. F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa, Wichita

For more details circle NED-874 D4 on enclosed inquiry slip

SPRADRI*



Drives Out Moisture and Wet..Stops Rust

On Damp or Wet Equipment. Even thoroughly soaked electrical or automotive equipment can be started in a few minutes after a SPRADRI application. SPRADRI penetrates every pore and crevice. Dries to a transparent film of molecular thinness and can be used on the most delicate instruments.

Stops Rust. SPRADRI stops rust instantly. This eliminates the necessity of dismantling and drying out complicated equipment. Ideal for tools, instruments, and appliances. Protects against corrosion.

Protects for Months. One application of SPRADRI on wet or dry equipment prevents shorting-out or rusting for long periods.

SPRADRI is packaged in 12 oz. Aerosol containers. Send $2.95 for a trial can or write for Bulletin 4D.

* trade mark patented

SPRADRI COMPANY
332 Atando Ave. Charlotte, N. C.
(Chemical Division of Perfecting Service Co.)

For more details circle NED-875 D4 on enclosed inquiry slip

Another money-saving Chase Packaging Product...

CHASE REDI-RAPT SPIRAL TUBING

A fast packaging textile tubing put up in roll form for hard-to-wrap items. Made from TOPMILL Burlap or sturdy cotton...sewn on the bias to stretch in *all* directions. Odd shapes, rolls, boxes, bales...all wrap easily, quickly, *economically*. One width covers a wide range of sizes. Fast coast-to-coast service.

Call or write today for additional information!

SINCE 1847 CHASE BAG COMPANY

Industrial Department: 309 W. Jackson Blvd., Chicago 6, Ill.
30 BRANCHES AND SALES OFFICES—STRATEGICALLY LOCATED

For more details circle **NED-876 D4** on enclosed inquiry slip

Threaded fasteners —like trees— need strong roots

Threaded fasteners subject to stress and wear in nonferrous materials, require some sort of hard bushing as a base for the tapped thread.

Of various types of bushings available for use with aluminum, plastics and similar materials, the Tap-Lok Insert is unique for simplicity and ease of installation and rigidity in use. Being self-tapping, it saves the cost of the separate tapping operation and avoids the danger of crossing threads. Secondary operations are unnecessary.

The insert withstands vibration without loosening and has maximum torque-and-pull resistance. It is completely free from the time-wasting failures of cast and molded inserts.

It is used in large volume as original equipment, in production salvage, and maintenance. It is easily inserted with a simple driving tool operated by hand or power.

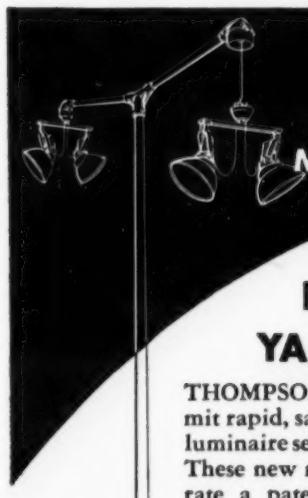
Send for descriptive folder.

ALSO MANUFACTURERS OF GROOV-PINS FOR POSITIVE LOCKING PRESS FIT.

GROOV-PIN CORPORATION

1126 Hendricks Causeway, Ridgefield, N. J.

For more details circle **NED-877 D4** on enclosed inquiry slip



SPECIFY *Servisafe* METAL POLE UNITS for INDUSTRIAL YARD LIGHTING

THOMPSON "Servisafe" units permit rapid, safe, low cost ground-level luminaire servicing and maintenance. These new metal pole units incorporate a patented disconnecting and lowering mechanism and are available in both single and double arm models. They are suitable for use with single pendant luminaires and for multiple floodlight installations. When double floodlights are used, each can be focused independently for maximum efficiency.

Write for Catalog PB-53 for complete details.

1912-TE

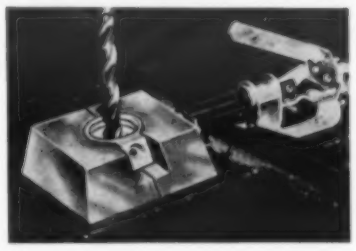
THE THOMPSON ELECTRIC CO.

1138 POWER AVENUE • CLEVELAND 14, OHIO

For more details circle **NED-878 D4** on enclosed inquiry slip

New Processes & Materials

PLASTIC METAL can be sawed, drilled, tapped and threaded after heatless forming



Permanent and durable drill jigs, fixtures, forming dies and similar products can be made in a short time at low cost with Devcon, a plastic metal consisting of fine steel powders and a strong plastic. It is a putty-like material which requires no heat or pressure. After the desired shape has been formed, it becomes a strong and rigid metallic piece in about 2 hours.

A precision form of the original is made without distortion or shrinkage. Material can be sawed, drilled, tapped, threaded and ground with conventional metalworking equipment. It has high impact, tensile and compressive strengths and can be chrome, nickel or copper plated or metallized by conventional methods.

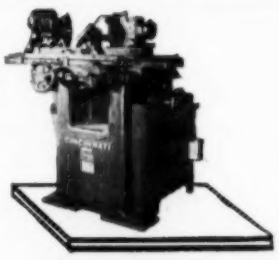
It has resistance to many solvents, acids, oils and other chemicals. Photo shows drill fixture made in 14 minutes. Material is supplied in 1 and 4-lb containers with required amount of hardener and release agent. Made by **Chemical Development Corp.**, Dept. D, P. O. Box 2, Danvers, Mass.

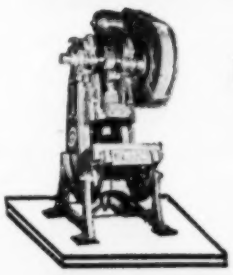
For more details circle **NED-879 D4** on enclosed inquiry slip

WALL DECORATION METHOD produces design in contrasting color

Interior wall decorating method makes possible application of a variety of attractive brocade-like designs in contrasting colors to painted walls. A double roller is employed, consisting of a standard fabric roller for picking up the paint and a molded plastic roller on which the design is embossed. Roller is available in five designs. Known as Super Kem-Tone Applikay, the paint applied by this roller has an opalescent sheen and has a chemical affinity for standard Super Kem-Tone latex base wall paint. It can be applied as little as one hour after the Super Kem-Tone and is available in eight translucent colors. It gives high coverage and dries to the touch within 30 minutes. Made by **Sherwin-Williams Co.**, Dept. E, 101 Prospect Ave. N.W., Cleveland 1, O.

For more details circle **NED-880 D4** on enclosed inquiry slip



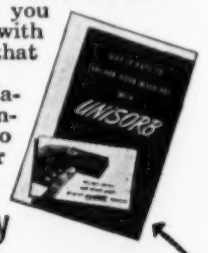


For Longer Machine Life Use UNISORB® Mountings

Eliminate 60%-85% of transmitted machine vibration, reduce machine maintenance and eliminate floor drilling — by mounting your machines on UNISORB.

No bolts, no lag screws when you use UNISORB pads with our special cement. Or, you can use UNISORB pads precoated with adhesive when mounting machines that do not require shimming.

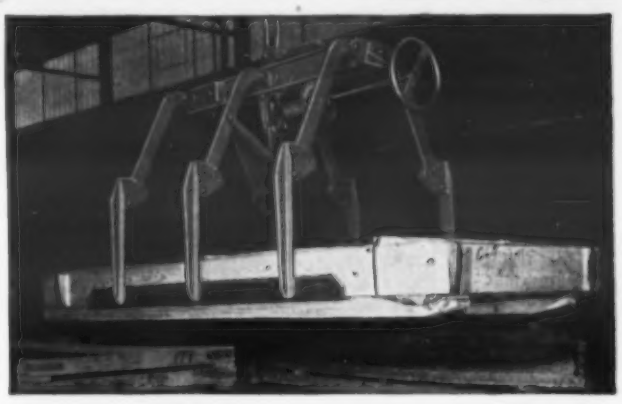
"Why It Pays To Anchor Your Machines With UNISORB" tells the entire story about this modern way to reduce noise and vibration. Ask for your copy. No obligation.



the FELTERS company
224 South Street
Boston 11, Massachusetts

WRITE FOR YOUR COPY OF THIS INTERESTING BOOK

For more details circle **NED-881 D4** on enclosed inquiry slip



HERE'S SHEET HANDLING ECONOMY

No better demonstration of the efficiency, flexibility and economy of C-F Lifters can be made than to watch this 5 ton C-F Lifter handle all sheet steel movement in this busy Chicago district warehouse.

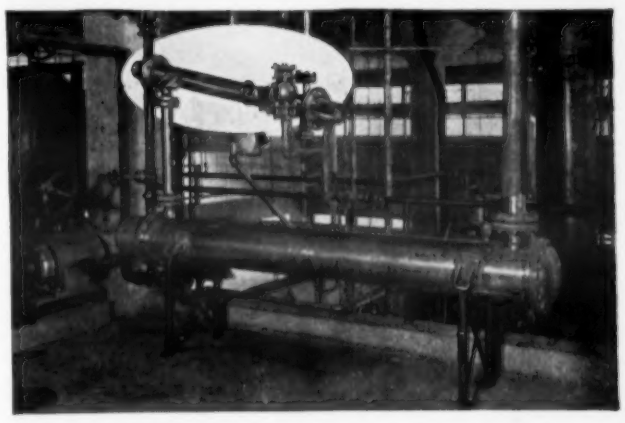
C-F Lifters have quick opening jaws with infinite opening and closing adjustments, permitting them to handle a wide variety of sheet widths—wide bearing angles that safely lift sheets without crimping edges—and control to permit close quarter operation—positive jaw controlling mechanism that holds the jaws open in any position—these and many other exclusive features make C-F Lifters a good investment in materials handling equipment.

C-F Lifters are made in manual and motor operated models in sizes to handle from 2 to 60 tons in standard and semi-special designs.

Write for the Bulletin "C-F Lifters"—it describes the advantages and economies C-F Lifters can bring to your sheet handling jobs.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle **NED-882 D4** on enclosed inquiry slip



Unique two-stage solvent recovery system at Cudahy Packing Co., cuts losses to minimum.

Pfaudler Heat Exchangers Save Solvent At Cudahy

You, too, can save money by letting Pfaudler engineers tackle your heat-exchanger problems.

For example, Cudahy Packing Co., using a highly volatile and costly solvent needed a recovery system that would minimize losses. Pfaudler came up with the two-stage assembly shown above. The large stainless-steel heat exchanger in the foreground does the major part of the job. But as solvents must be vented, a substantial amount could be lost.

So Pfaudler engineers designed a small second unit (circle) which is refrigerated. This condenses escaping vapors, recovering all but the irreducible minimum.

The heat exchangers used here were built from Pfaudler's unique flexible standard heat-exchanger plan. Balanced inventories of standard parts are maintained so that they can be adapted to the exact need. This saves time and lowers cost, too. Delivery in 4 to 12 weeks!

Let us discuss your next heat-exchanger problem with you . . . meantime, send for this data book.

All the Data You Need to work out heat-exchanger capacity and type problems is contained in this 40-page fact-packed Pfaudler manual. The tables, charts and curves are easy to follow. And it includes full details on Pfaudler heat exchangers. Mail the coupon for your copy.

Pfaudler

Engineers and fabricators of corrosion-resistant process equipment

GLASSED STEEL—Hastelloy • Aluminum • Tantalum • Teflon • Carbon Steel • Solid or Clad Stainless Steel • Nickel • Inconel • Monel

THE PFAUDLER CO., Dept. NED-4, Rochester 3, N. Y.
Please send me the Pfaudler Heat-Exchanger Manual No. 837.

Name _____
Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle **NED-883 D4** on enclosed inquiry slip

"AMF De Walt saves us 80% on maintenance time and labor!"

says Marty Kule, Lezius-Hiles Printing Company, Cleveland, Ohio

"A typical job AMF De Walt® did for us was cutting and drilling lumber for 20 stock trucks. All the 1¼" pieces of lumber for one truck were cut and drilled in 1½ hours. Without AMF De Walt, the job used to take 8 hours. What's more, each came out accurate, alike, and required no finishing. The savings on this job alone half paid for our AMF De Walt!"

Versatile, economical, does all jobs. Fast, safe, accurate, compact. Prices start at $229 for ½ H.P. model. Send for catalog to De Walt Inc., Dept. IEN-54-4, Lancaster, Pa.

De Walt Inc. Lancaster, Pa.

DE WALT

POWER SAWS

In Canada: De Walt Canada Ltd., Guelph, Ontario

Subsidiary of AMERICAN MACHINE & FOUNDRY COMPANY, New York

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THE QUADRIGA MANUFACTURING CO.

221 West Grand Avenue • Chicago 10, Illinois

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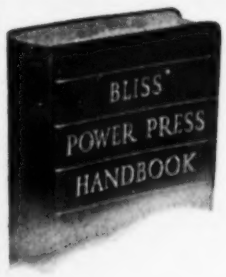

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- 700 Pages
- 450 Illustrations

"One or Several Are Needed in Every Stamping Shop . . . *American Machinist*"

Sections on: Computing press jobs • Selecting proper press • Useful engineering tables • Die illustrations • Complete glossary • Plus a service section for Bliss presses. **$7.50**

E. W. BLISS CO.
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Rush me a copy of the Bliss Power Press Handbook.

I am enclosing $7.50 ..... • Bill me .....

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New Literature & Catalogs

Fuel Oil Heaters

Griscom-Russell Co.—16-page illustrated bulletin 1415 covers fuel oil heaters of two designs. They have capacities ranging from 50 to 31,000 lb per hour of 10 degree API fuel oil and from 2 to 1000 gpm of Bunker C fuel oil, respectively. Construction features, applications and complete performance data are covered.

▲ For more details circle NED-892 D4 on enclosed inquiry slip ▲

Electrical Tapes in Motors

Minnesota Mining & Mfg. Co.—12-page illustrated booklet describes how Scotch brand electrical tapes are used in electrical motor construction and repair. Complete specifications are given on 10 different types for a variety of insulation and holding purposes. Information is also given on an electrical insulation resin for encapsulation of motor coils against corrosive vapors, moisture, oil and shock.

▲ For more details circle NED-893 D4 on enclosed inquiry slip ▲

Screw Thread Insert Selection

Heli-Coil Corp.—In addition to giving description of Heli-Coil screw thread inserts and detailing installation methods, 4-page illustrated bulletin 654 contains tables showing how to select the correct insert for repairing and matching National Coarse, National Fine, pipe, automotive and aircraft spark plug threads.

▲ For more details circle NED-894 D4 on enclosed inquiry slip ▲

Heat Exchangers

Davis Engineering Corp.—16-page illustrated bulletin No. 1000 covers Paracoil heat exchangers for chemical process and industrial applications, for power plants and utilities, marine projects and for fuel oil heaters. Construction and design features of a wide variety of such equipment are illustrated and explained.

▲ For more details circle NED-895 D4 on enclosed inquiry slip ▲

Steam Traps

William S. Haines & Co.—12-page illustrated bulletin HC-51 covers bourdon tube powered steam traps for process steam, heating and marine service. Thermostatic, float, drip, float vent and boiler return types are included. Full data are given on capacities, construction, operation and features.

▲ For more details circle NED-896 D4 on enclosed inquiry slip ▲

Expansion Bolts

Diamond Expansion Bolt Co.—Expansion bolts and allied products including caulking, hammer-drive and screw anchors, crimp nuts, star and carbide masonry drills, clamps, straps, conduit and connectors are covered in 36-page illustrated catalog No. 151. Complete ordering information is given on all products, together with brief description.

▲ For more details circle NED-897 D4 on enclosed inquiry slip ▲

Spray Painting Equipment

M & E Mfg. Co.—Products ranging from hose connections and spray guns through air compressors, exhaust fans, water wash paint spray booths and up to the largest complete finishing and air replacement systems are detailed in 68 pages of catalog G-54. Designed for operating personnel, purchasing agents and processing engineers, it contains practical data.

▲ For more details circle NED-898 D4 on enclosed inquiry slip ▲

Stainless Steel in Paper

Allegheny Ludlum Steel Corp.—36-page well-illustrated booklet describes uses of stainless steel in the paper industry. Uses of the metal in pulping and paper making are covered, and its various properties under different conditions are considered. Tabular data cover physical and mechanical properties, and fabrication properties and methods are discussed at large.

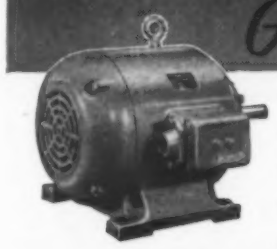
▲ For more details circle NED-899 D4 on enclosed inquiry slip ▲

Circuit Controlling Preset Counters

Counter & Control Corp.—Cyclo-Monitors, circuit controlling preset counters with instantaneous automatic reset, are described in 34-page catalog with typical cycle diagrams, dimensional drawings, photos, and performance ratings. Units will count revolutions, strokes or impulses; transfer switch when preset count is reached; hold switch for predetermined count; then return it to normal position.

▲ For more details circle NED-900 D4 on enclosed inquiry slip ▲

Great Motors from Great Britain!



- world-famous NEWMAN MOTORS
- net savings up to 40%
- immediate delivery
- unconditionally guaranteed
- superior design— to N.E.M.A. standards

For the first time, the complete world-famous line (2 million installed in 62 countries since 1935) of NEWMAN MOTORS, built to N.E.M.A. standards, is offered to the American Market in sizes up to 230 H.P.

These are new, high-quality motors stamped with the prestige of a great motor-making company. Vast savings, dependability, unconditional guarantee are offered to American buyers.

Any motor sent free and without obligation for examination and testing. Factory stocks at New York, Chicago, Savannah, Houston, Portland, San Francisco and Los Angeles.

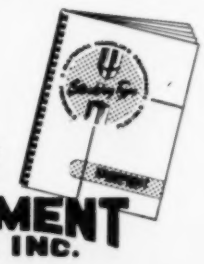
Write for a catalog and price list to-day

Newman INDUSTRIES (AMERICA) INC.
43 BROAD STREET, NEW YORK 4, N.Y.

▲ For more details circle NED-901 D4 on enclosed inquiry slip ▲

Strong, safe, stacking racks, portable and stationary, of welded square steel tubing reduce costs in production storage, order assembly, shipping — *in every industry.* May we show you how we can reduce your handling costs up to 50%?

WRITE FOR THIS NEW CATALOGUE



EQUIPMENT MFG. INC.

21566 Hoover Rd., Detroit 5, Mich.

▲ For more details circle NED-902 D4 on enclosed inquiry slip ▲

Tough Babies!

THEY DEFY ROUGH HANDLING!

LOWER COST Material Handling favors these rugged items! Mill-box above features steel compound Top rail (see inset) and Bulge corners, both extraordinary wear-resisting. Note slat reinforcing and non-jamming "nesting limits"

BOTH BUILT BY "BAL" BUILT WITH A CONSCIENCE FOR MATERIAL HANDLING

Nesting tote boxes at right, also built with handles and strongly reinforced all-fibre; hard, vulcanized for severe usage.

ALSO HARD VULCANIZED FIBRE TRUCKS, DRUMS, SPECIAL CASES.

• *Write for Catalog!*

WILLIAM BAL CORPORATION
11 Johnson St, Newark 5, N. J.

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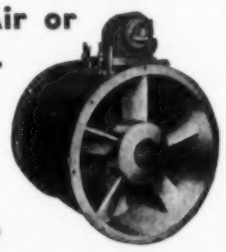
The Wingfoil Straight-Line Duct Fan is Unexcelled



For supplying Fresh Air or Exhausting Air containing Paint Spray, Dirt, Steam, Explosive Vapors, etc., in Any Volume or Pressure

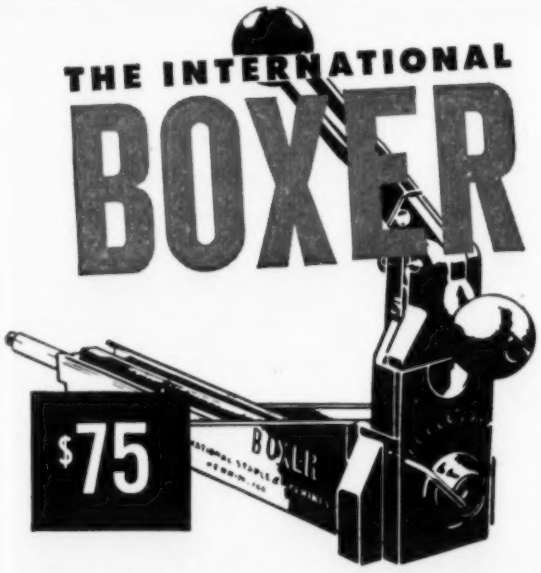
It may be used as a roof intake or exhaust, or it may be inserted in a run of duct, occupying no extra space. The motor is located outside the casing, driving the Wingfoil "non-overloading" fan by means of an enclosed V-belt. It is light, compact and easily handled, and may be mounted either horizontally or vertically.

Write for Bulletin F-10

L. J. Wing Mfg. Co. 165 Vreeland Mills Road Linden, New Jersey

▲ For more details circle NED-904 D4 on enclosed inquiry slip ▲

THE INTERNATIONAL BOXER



PORTABLE STAPLE MACHINE . . . The "Boxer" is a knockout for stapling corrugated or fibre containers. Lightweight (only 4 lbs., 10 oz.) and small (16x3½x7"), it uses the revolutionary International Retractable Anvil . . . stapling filled cartons from the outside. Close your cartons faster . . . neater . . . with fewer staples per unit area, and at less cost per carton.

Write for bulletin No. 101 on the "Boxer." For large daily volume ask about the large automatic Internationals.

INTERNATIONAL STAPLE & MACHINE CO. 802 E. HERRIN ST HERRIN, ILLINOIS

▲ For more details circle NED-905 D4 on enclosed inquiry slip ▲

New Processes & Materials

RUBBER-TO-NYLON BONDING
new method saves labor, materials

Up to 50 per cent reduction in total cost of finished parts is obtainable by new method for bonding rubber to nylon bearing. In former technique metal sleeves were molded into rubber, bearing was inserted and rubber surfaces were ground to dimensions. In new method, the injection molding and bonding within close tolerances are done in one operation. Developed by **Minnesota Rubber & Gasket Co.,** 3630D Wooddale Ave., Minneapolis 16, Minn.

▲ For more details circle NED-906 D4 on enclosed inquiry slip ▲

PLASTICS COATING FACILITIES
offered on contract basis

Plastics coating facilities include automatic equipment for fast production work. This equipment can be adapted to process a wide range of articles including dish racks, wire baskets, egg trays, springs, toys, gloves and electrical components on a contract basis. Hysol plastisol coatings for use with the equipment can be developed for any specific purpose. Facilities are available from **Houghton Laboratories, Inc.,** Dept. J-100, 333 Bush St., Olean, N. Y.

▲ For more details circle NED-907 D4 on enclosed inquiry slip ▲

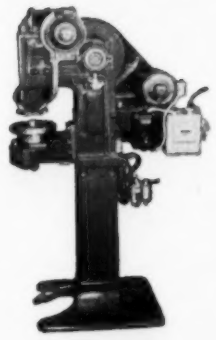
ELECTRICAL INSULATION
resin has 3 to 5-day useful life

Useable life of from 3 to 5 days before setting up is feature of Scotchcast epoxy type electrical insulation resin No. 3. Cure time for the resin, offered in two-part liquid form, is from 2 to 4 hours at 250° F, and longer at lower temperatures. Applications include hermetically sealing and embedding resistors, unitized electronic circuits, pre amps, toroids and audio and power transformers in a solid block of resin. Low viscosity permits impregnation of coils for high moisture resistance. It has a dielectric strength of 1000 to 1500 v per mil on thin sections. Made by **Minnesota Mining & Mfg. Co.,** Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

▲ For more details circle NED-908 D4 on enclosed inquiry slip ▲

Speed Production... Automatically with

T-J RIVITORS



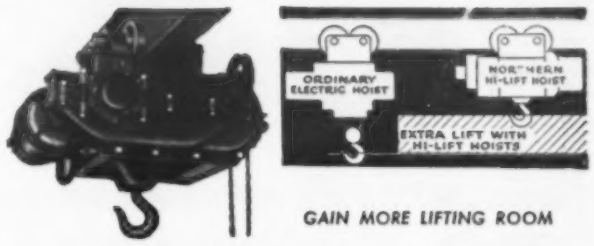
Boost production . . . save labor in aircraft, automotive, farm machinery, stampings of all kinds . . . with T-J Rivitors! Automatically feed and set solid rivets. Electrically-powered Rivitor sets 1/16" to 1/4" diam. solid rivets up to 7/8" long. Air-powered Rivitor sets aluminum alloy rivets up to 1/4" diam. or steel rivets up to 1/8" diam. and up to 3/4" long. Throat depths 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

T-J Rivitor used for automotive clutch plate assembly. Does four-fold job—assembling, setting, inspecting, ejecting.

37 YEARS EXPERIENCE T-J
TOMKINS-JOHNSON
RIVITORS...AIR AND HYDRAULIC CYLINDERS...CUTTERS...CLINCHORS

▲ For more details circle NED-909 D4 on enclosed inquiry slip ▲

the heavy-duty hoist for low headroom service



GAIN MORE LIFTING ROOM

NORTHERN HI-LIFT
HEAVY-DUTY
ELECTRIC HOISTS

Heavy load capacity combined with high hook lift—unique in heavy-duty hoists—is the major outstanding feature in NORTHERN HI-LIFT HOISTS, providing for more efficient use of work and storage areas. Capacities: up to 15 tons, standard. Cab control if desired.

Write for Bulletin H-110-163

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

▲ For more details circle NED-910 D4 on enclosed inquiry slip ▲

THERE'S A STURDY BURKE FOR EVERY PURPOSE

Thousands of efficient, low cost Burke Bench Millers are proving their superiority in Tool, Development and School Shops and a wide variety of mass production operations.

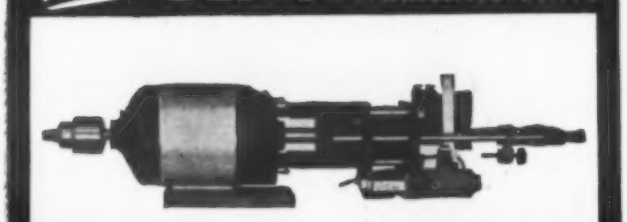
Send for complete data on models attachments, accessories and suggestions for putting Burke's to work for your profit.

THE U. S.-BURKE MACHINE TOOL DIV.

Brotherton Road 2, Cincinnati 27, Ohio

▲ For more details circle NED-911 D4 on enclosed inquiry slip ▲

New BLACK SELF-CONTAINED DRILLING UNITS



NO SPLINES — Self-contained units, at low cost, for drilling, tapping, chamfering, reaming and similar operations.

NO GEARS — New principle employs traversing motor shaft for work spindle, applies even torque with practically no end play. Drill has air feed for rapid advance to work—hydraulic control to completion of work cycle with uniform feed. Tapping unit controlled so tap follows its own lead without chamfering first thread or stripping threads on return stroke. Easy adjustment—depth accuracy to within .001".

NO CAMS

NO CLUTCHES

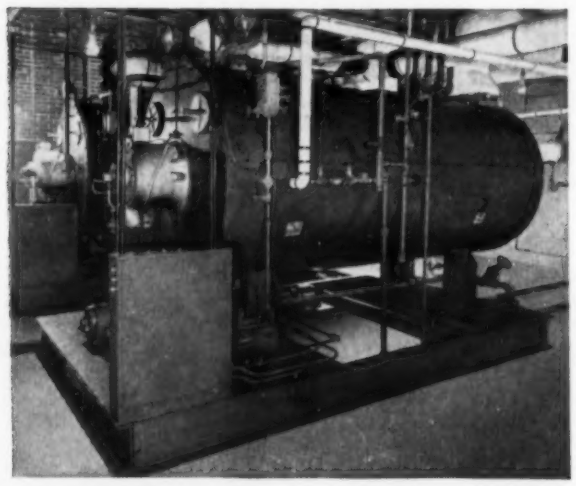
NO REVOLVING WEIGHTS — Operate in any position. Wide range of speeds and sizes.

Write for complete information

BLACK DRILL COMPANY, INC.
1380 EAST 222nd STREET CLEVELAND 17, OHIO

For more details circle NED-912 D4 on enclosed inquiry slip

Steam Costs Go DOWN where *Powermasters* Go In



For Example:

A textile plant cut steam costs 20% by replacing a coal-fired boiler with these two oil-fired *Powermaster* Packaged Automatic Boilers. Low-cost space-saving installation, completely automatic operation, higher quality steam, much less attention and maintenance, and smokeless combustion are advantages gained.

Have You Checked Your Steam Costs Lately?

Many kinds of industrial plants, food processors, schools, institutions, public buildings, laundries, housing projects, and utilities are also enjoying the cost-saving advantages of *Powermaster* boilers.

Send for New Bulletin

describing and illustrating all cost-saving advantages of *Powermaster* units.

O&S *Powermaster*®

PACKAGED AUTOMATIC BOILERS

Sizes to 500 HP; pressures to 250 psi.

Orr & Sembower, Inc.
Morgantown Rd., Reading, Pa.

For more details circle NED-913 D4 on enclosed inquiry slip

New Literature & Catalogs

Laboratory Chemicals

Fisher Scientific Co.—304-page Chemical Index No. 115-C provides comprehensive listing of laboratory chemicals including individually lot-analyzed reagents for analysts, metallurgists and clinicians; bacteriological culture media; radioactive reagents; and analytical ion-exchange resins. Information includes structural formulas, molecular weights, melting and boiling points for most of the chemicals and color index numbers for dies and stains.

For more details circle NED-914 D4 on enclosed inquiry slip

Controls, Switches, Etc.

Automatic Switch Co.—Containing 40 pages altogether, illustrated file-type bulletin No. 528 entitled "When Normal Power Fails . . ." covers automatic transfer switches, engine-generator starting units, differential relays, time delay relays and complete control panels. Information is also given on such related subjects as current surge tests, adequate lighting, relay protection and auxiliary equipment for engine generator controls.

For more details circle NED-915 D4 on enclosed inquiry slip

Neoprene Cold Bonding System

Gates Engineering Co.—Method of cold bonding Neoprene sheet to metal, wood, concrete and other materials is discussed in 4-page illustrated manual N-4. System uses primer, bonding agent, Neoprene sheet and an optional caulking agent to give equipment protection equal to that offered by heat and pressure methods. Application can be carried out at room temperature or in the field without special equipment. Full details, bond strengths and other data are given in bulletin.

For more details circle NED-916 D4 on enclosed inquiry slip

Vibration Isolating Mounts

Barry Corp.—Series 670 and 297 Barrymounts, designed to reduce shock, vibration and noise, are covered in product bulletin 538. Detailed technical and application data are provided on units with seven load ratings ranging from 500 to 4400 lb having isolation efficiency for vibration of approximately 70 per cent at 1200 rpm and 90 per cent at 1800 rpm. Dimensions, loads, installation data and shock performance are among subjects discussed.

For more details circle NED-917 D4 on enclosed inquiry slip

Clamp Applications

Punch-Lok Co.—"Clampways Ideas" is title of 24-page illustrated bulletin giving case-history style treatment to unusual applications of Punch-Lok clamps. These cover production, maintenance and repair fields in a variety of industries from breweries to mining. Different types of clamp available and simple tools used in their application are also shown.

For more details circle NED-918 D4 on enclosed inquiry slip

Investment Castings for Small Parts

Vascoloy-Ramet Corp.—"Solve Your Small Parts Problems" is an illustrated 8-page brochure (VR-470) which relates how investment castings solve small parts problems involving intricate form; wear, corrosion, heat and oxidation resistance; and close tolerances. Data on designing such parts and use of nonmachinable materials are presented. Company facilities and engineering services are detailed.

For more details circle NED-919 D4 on enclosed inquiry slip

Felt Products

Bacon Felt Co.—12-page illustrated catalog "Felt Products For Industry" gives illustrations and descriptive matter on wool felt wheels, bobs and sheets and on hair felt sheets and wheels. Felt wheel specifications and selection, "how-to-do-it" hints on maintenance and use and physical and chemical properties of each grade of felt are also shown. Felts for many other uses are described.

For more details circle NED-920 D4 on enclosed inquiry slip

Electric Brakes & Clutches

Warner Electric Brake & Clutch Co.—Small electric brakes and clutches for low torque drives are subject of 6-page illustrated bulletin 6158. They are designed for easy operation with automatic controls and are useful for small machine, servo and instrument drives. They provide static torque ratings up to 240 lb-in., feature automatic take-up for wear and offer fast and positive inching, indexing and jogging.

For more details circle NED-921 D4 on enclosed inquiry slip

VALET RACKS

LOCKERETTE —Combines the best features of both lockers and coat racks

Improves health and morale —lowers absenteeism

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 ft; the No. 9-18 (illustrated) accommodates 18 in 9 feet.

Write for Bulletin No. OL 8

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

For more details circle NED-922 D4 on enclosed inquiry slip

for cutting 18-gauge sheet metal

BUCKEYE *portable nibbler*

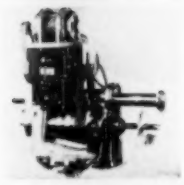
Buckeye portable, air-powered nibblers eat their way through 18-gauge sheet metal, leaving a clean, sharp cut, with no distortion of the exposed edges. Will cut on a one-inch radius, follow intricate contours exactly. Cutting can be started in center of panel by providing access hole for tool. Hardened and ground punch and anvil easily accessible for re-grinding or replacement if necessary. Complete information in Air Tools Catalog—write for your copy today.

Buckeye Tools CORPORATION
DIVISION 34 • DAYTON 1, OHIO

producers of the world's first successful rotary air tools

For more details circle NED-923 D4 on enclosed inquiry slip

Sure! Turner can furnish ordinary 3 or 4 speed transmissions—BUT . . . Turner can ALSO furnish 6 or 9 speeds for AS LITTLE AS $10 to $20 ADDITIONAL . . .



Now, for slight added cost you can have 6 or 9 speeds at the "twist of a wrist." Models range from fractional to 60 H.P. Wide range of applications on machine tools as well as other equipment. Write for specification and descriptive catalog.

See your dealer or write for further details

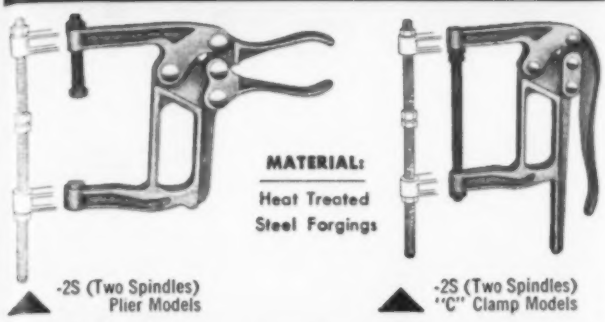
TURNER 3R3 UNI-REDUCER

New simplified speed reducer mounts on motor shaft with torque arm to frame or base. Fits standard motors to 5 H.P., 1800 RPM; to 3 H.P., 1200 RPM. Reduction ratio 3.04 to 1. Write for information.

TURNER UNI-DRIVE Company
3485 Terrace Street Kansas City 8, Missouri

For more details circle NED-924 D4 on enclosed inquiry slip

ANOTHER STEP FORWARD
DOUBLE-SPINDLE MODELS



With this new double-spindle arrangement you can now clamp your work anywhere within the throat gap.

Available in 4 series—Models for 1-1/8 — 2-7/8 3-7/8 and 5-7/8 maximum throat gap.
All models have 2-1/4 throat depth and a clamping force of 1200 pounds.
Above illustrations show 3-7/8 inch throat gap models.
Along with the above, we also offer Pliers and "C" Clamps of other throat gap and depth and a full line of Toggle Clamps for fixed mounting, both manual and air-operated.

Send for complete catalog and templates.

Sales offices in principal cities—Teletype DE 49

KNU-VISE PRODUCTS **LAPEER MFG. CO.**
3062 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION — 422 MAGNOLIA • GLENDALE, CALIF.
CANADIAN DIV. — HIGGINSON ENGR. • HAMILTON, ONT.

For more details circle NED-925 D4 on enclosed inquiry slip

TO MEET EVERY CUTTING NEED HOBBS HAND AND POWER SHEARS

Whether you need cutters for production work or for occasional use, you'll find the most efficient and most economical answer in the Hobbs line of Jacques Hand Shears and Hobbs Power Shears. They are specially designed to cleanly, accurately cut paper, plastic, fabric, laminations, leather, synthetics and many other materials from rolls and sheets. Ruggedly built, they have hardened steel blades — will give you years of trouble-free service.

For continuous or intermittent cutting in quantity, Hobbs offers you a powerized cutter with gauges that is adaptable to any production set-up. Cuts at speeds up to 87 strokes per minute. Completely automatic production cutters are also available.

The Jacques Universal Shear is complete with table and accurate gauges for cutting sheets into uniform strips 1/8" to 20" in width. Six sizes available — 30" to 60".

You can choose from 12 sizes of Jacques Bench Shears for cutting in widths up to 10 feet. Special tables and gauge arrangements to order. The Jacques, Jr. Cutter is an accurate, versatile all-metal unit for widths 12" to 36". Self-supporting clamp automatically holds material. Table and bench models available.

Get the complete facts today! Write for catalog sheet describing any of these modern Hobbs Shears. No obligation.

HOBBS MANUFACTURING CO.
41 Salisbury St., Worcester 5, Mass.
New York Office: 132 Nassau Street
Chicago office: 549 West Washington Blvd.
EST. 1883 *Manufacturers of Modern Converting Machinery*
Jacques Hand Shears; Hobbs Production Cutters, Corner Cutters, Slitters and Rewinders, Autotronic, Tri-Power and "Adjustable Die" Presses

For more details circle NED-926 D4 on enclosed inquiry slip

SABIN *labor saving* BARREL TRUCK→

Saves labor because it makes it easy for one man to pick up and move containers up to 800 pounds—a job that requires one or two helpers with an ordinary truck. Loads are picked up by simply running truck up to container, hooking on at top and pulling back on handle. *Third Wheel feature* assures an extra measure of safety in moving loads.

WRITE FOR BULLETIN No. 48-A

THE SABIN MACHINE CO.
6536 Carnegie Avenue Cleveland 3, Ohio

For more details circle NED-927 D4 on enclosed inquiry slip

New Processes & Materials

ALUMINUM SAFETY STAIR TREAD
ribs contain hard abrasive grains

An easy, economical method of repairing worn stairway treads as well as preserving new stairs is provided with Stairmaster extruded aluminum alloy safety stair tread. Product is made with 9-in. depth and in any length. It has 11 rows of firmly imbedded safety ribs containing hard abrasive grains for antislip qualities. A 1⅛-in. lip covers and protects face of tread. Screws, or combination screw and lead shield are used to fasten tread on wood, concrete, slate or marble type stairs. Worn treads must first be built up and leveled with mastic before installing new safety tread. Made by **Wooster Products Inc.**, Dept. S, Wooster, O.

For more details circle NED-928 D4 on enclosed inquiry slip

REPRODUCTION FILM
produces black lines, graded tones

Adhesive-backed diazotype film for plant layout projects produces solid black-line, as well as graded tone images in direct positive from tracings, drawings or templets. Film is clear and can be processed through any ammonia-vapor type developing machine. Adhesive-coated back is simply peeled off protective paper and mounted to any film grid sheet or drawing. It is also practical for mapping, charts and graphs. Made by **Repro-Templets Inc.**, Dept. NED, Oakmont, Pa.

For more details circle NED-929 D4 on enclosed inquiry slip

ELECTRICAL CABLE
for underground feeder service

Suitable for use in underground distribution systems, type UF electrical cable is available in single conductor in sizes 14 through 4, in two conductor with or without ground wire and in three conductor in sizes 14 through 10. Thermoplastic conductor insulation and cable jacket make it resistant to all soil elements, acids, alkalis, oils and moisture. It is strengthened by glass fiber members which separate the cable jacket from the conductor sheath. It is UL approved and recognized for various applications, including interior and exterior wiring systems. Made by **National Electric Products Corp.**, Room 902, Gateway Center, Pittsburgh 22, Pa.

For more details circle NED-930 D4 on enclosed inquiry slip

Attention! INSTRUMENT ENGINEERS and PLANT ENGINEERS

Get This Information-Packed Literature Now If you specify, buy or maintain instruments that record, control or measure temperature and or pressure, then you should have a complete set of Gotham catalogs in your file.

Write for these data-filled catalogs today.

Keep Everything Under Control With Gotham

GOTHAM INSTRUMENTS
DIVISION OF AMERICAN MACHINE AND METALS, INC.
Dept. 1, 233 Broadway, New York, N. Y.

For more details circle NED-931 D4 on enclosed inquiry slip

Permanently Readable

Write for free book with full color examples of our plates.

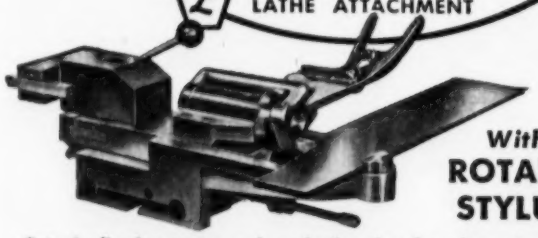
TO identify your product clearly and to make sure your instructions are permanently readable, use our high quality metal plates. We'll gladly help design plates that reflect your pride and match the quality of your product. Skilled craftsmen, modern equipment assure enduring satisfaction. Send rough sketch or blue print for design suggestion and quotation, without obligation.

CHICAGO THRIFT-ETCHING CORPORATION
1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. U
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

For more details circle NED-932 D4 on enclosed inquiry slip

Now you can Perform all these operations on ANY Engine or Turret Lathe

Lehigh **TRACER-TOOL®**
PROFILE-TRACING LATHE ATTACHMENT



With **ROTARY STYLUS**

Cuts duplicating set-up and production time from hours to minutes. Does finest precision work—including BULLARD operations. Completely mechanical—no electronic or hydraulic controls. Thoroughly proven! Catalog and Engineering Data on request.

See It Demonstrated At The
ASTE INDUSTRIAL EXPOSITION
Booth No. 1355

Air Control Division of
Lehigh Foundries Inc.
1503 LEHIGH DRIVE, EASTON, PENNA.
West Coast Distributor: CAMPBELL CONTOUR ATTACHMENT CO.
1320 W. Esther St., Long Beach, Calif.

MANUFACTURERS OF AIR VALVES • AIR CYLINDERS • AIR HOISTS • AIR MOTORS • PRECISION CASTINGS • AUTOMATIC VENDING MACHINES • COMMERCIAL REFRIGERATION SYSTEMS & UNITS

For more details circle NED-933 D4 on enclosed inquiry slip

FREE LUBRICATION SURVEY OF YOUR PLANT

Eliminate bearing failures like this
(due to haphazard lubrication)

An experienced Farval engineer will come into your plant and conduct a Free Lubrication Survey of your equipment. This Farval Survey will tell you:

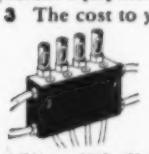
1 The most economical method of lubrication for each piece of your equipment.

2 Whether centralized lubrication can be installed on your present equipment.

3 The cost to you of a Farval centralized system of lubrication on any or all pieces of machinery.

4 How centralized lubrication can increase bearing life, save you maintenance costs and increase production.

These are facts that can save you thousands of dollars! A Farval engineer is ready to serve you promptly. This is a Free Survey—no obligation. Write today!



THE FARVAL CORPORATION
3283 East 80th Street • Cleveland 4, Ohio

Affiliate of The Cleveland Worm and Gear Company, Industrial Worm Gearing

▲ For more details circle NED-937 D4 on enclosed inquiry slip ▲

Photo shows plate glass pushed against resilient air-inflated wheel. Note large abrasive contact area—up to 3000% more! This means a corresponding production increase.

...how to INCREASE BUFFING, POLISHING PRODUCTION 3000%

● You can boost your buffing and polishing output up to 3000% on flat work ...and 600 to 700% on contours...by using this resilient air-inflated wheel. Many other advantages such as—*no chatter or bounce... eliminates under-cuts . . . produces a straight pattern similar to a hand finish.* For use on portable tools or bench-stands—wherever ordinary polishing wheels are used. Send NOW for free literature and name of distributor nearest you. Nu-Matic Grinders, Inc., 8223 Carnegie Ave., Cleveland 3, Ohio.

send for full information TODAY!

NU-MATIC Air-Inflated GRINDERS

▲ For more details circle NED-938 D4 on enclosed inquiry slip ▲

▲ For more details circle NED-939 D4 on enclosed inquiry slip ▲

New Literature & Catalogs

Wirewound Resistors

Sprague Electric Co.—36-page illustrated catalog No. 101 covers power-type fixed wirewound resistors conforming to MIL-R-26B specifications. Complete series of standard resistor values and maximum permissible currents are shown, together with ordering information.

▲ For more details circle NED-940 D4 on enclosed inquiry slip ▲

Hydraulic Cranes

Ruger Equipment Inc.—Hand-powered hydraulic cranes in both floor and truck mounted styles and in capacities ranging from 1000 to 6000 lb for the floor models are shown in 1954 catalog "The First and the Best."

▲ For more details circle NED-941 D4 on enclosed inquiry slip ▲

Liquid Level Indicators

Bogue Electric Mfg. Co.—Operations of liquid level indicator systems using ultrasonic pulses are described in 8-page bulletin S-68. Systems use no moving parts, but accurately indicate within ±0.01-ft. Data on application engineering and diagrams cover typical installations.

▲ For more details circle NED-942 D4 on enclosed inquiry slip ▲

Pipe Tools

Nye Tool Co.—12-page illustrated catalog No. 17 covers dealer's net prices on a range of pipe tools including threaders, die stocks, reamers, taps, universal drive shafts, pipe and tube cutters, vises, vise stands and wrenches. Brief descriptions are provided for all items shown.

▲ For more details circle NED-943 D4 on enclosed inquiry slip ▲

Steam Hose

Quaker Rubber Corp.—Steam hose applications, together with steam hose types, are covered in illustrated bulletin with performance data, sizes, weights and working pressures. Different couplings are also described.

▲ For more details circle NED-944 D4 on enclosed inquiry slip ▲

Universal Joint House Organ

Gear Grinding Machine Co., Joint Div.—"Universal Favorite" is title of new house organ containing case histories, application information, engineering suggestions and special features on universal joint problems. It will be mailed regularly to engineering and production executives concerned with universal joints.

▲ For more details circle NED-945 D4 on enclosed inquiry slip ▲

Hydraulic Cylinders

Hydro-Line Mfg. Co.—8-page illustrated catalog No. 53 contains data on series J hydraulic cylinders for 2000 psi oil hydraulic service. They meet all JIC requirements, feature steel body and caps and are available in bores ranging from 1 to 8 in. All data on mountings, body dimensions, construction and special types for unusual service are given.

▲ For more details circle NED-946 D4 on enclosed inquiry slip ▲

Tapping & Threading Equipment

Lassy Tool Co.—Tapping and threading equipment for toolroom and production work is shown in 6-page illustrated folder. Three different hand tapping machines are shown, of both bench and floorstand types, and various lathe setups are illustrated.

▲ For more details circle NED-947 D4 on enclosed inquiry slip ▲

Vacuum Pump Care

F. J. Stokes Machine Co.—"How to Care for Your Vacuum Pump" is title of 16-page illustrated handbook useful to all who install, operate and service this equipment. Contents include making piping connections, recommended gages, valves, fittings and gaskets, step-by-step trouble shooting procedures for different operating malfunctions and "do's and dont's" in standard practice.

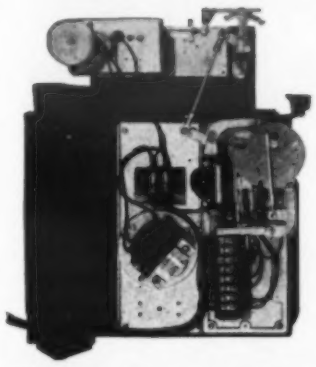
▲ For more details circle NED-948 D4 on enclosed inquiry slip ▲

Time Recorders

International Business Machines Corp.—Time recording equipment for recording IN and OUT attendance time as well as amount of time spent on individual jobs during working hours is described in illustrated 4-page folders 53-6132 and 53-6152. Recorders are available with many combinations of symbols for any requirement and can be used as basis for payroll and job cost computations and other accounting functions.

▲ For more details circle NED-949 D4 on enclosed inquiry slip ▲

a new electronic flow meter!



electronic operation provides high speed and greater accuracy

continuous integration —no creep at zero

unaffected by normal voltage, frequency and temperature changes

3 to 1 range calibration at recorder

HAYS Electronic Flow Meter

Since the circuit is of the electronic null-balance type, it is unaffected by normal voltage and frequency variations. Also, neither temperature variations nor reasonable length of transmission lines affect the calibration of the instrument.

The *pen-drive motor* is built for reversing duty. Normal variations in voltage and frequency have no noticeable effect on its operation. The *integrator* is continuous in operation and simple in mechanical construction. A micrometer zero adjustment for calibration is easily accessible. *Indicators* can be calibrated to read directly in rate-of-flow or other factors as desired. *Write today for Bulletin 52-1074-222.*

THE hays CORPORATION
Michigan City 15, Indiana

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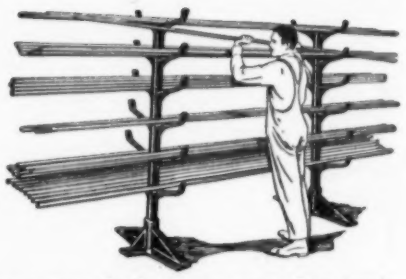
for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

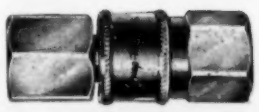
BROWN QUICK-SERVE RACKS

▲ For more details circle NED-951 D4 on enclosed inquiry slip ▲

ALL COMERS!

HERE'S THE CHAMP...
YOU SUPPLY THE CHALLENGER

The difficult fluid, gas, or air transmission problem in your plant—We'll send you a Snap-Tite Hi-Flow quick connect disconnect coupling—double or single shut-off or straight-thru—any size 1/8" to 3"—Test it! in your Plant, under actual working conditions—You be the judge—If it doesn't do a better job than the coupling you're now using — Or solve your problem—Ship it back collect! Fair enough? Write today on your letterhead, briefly outlining your problem —We'll ship immediately.



Snap-Tite INC
201 S. WOODROW
UNION CITY, PENNA.

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thousands of users PROVE
"HI-TEMP"
C-5 THREAD COMPOUND
IS BEST FOR ALL STUD THREADS and STAINLESS STEEL APPLICATIONS

✔ speeds up dis-assembly time
✔ prevents stud breakage
✔ eliminates pitting of stainless steel

NO MORE FROZEN OR GALLED STUDS ...EVEN AT 1800°F

Let us SEND you a
FREE SAMPLE
so you can PROVE to YOURSELF that C-5 will lick your toughest stud breakage problems!

To assure easy maintenance on products having threaded assemblies many leading product engineers have specified the use of Fel-Pro C-5 as an anti-seize coating on stud threads prior to final production line assembly.

Fel-Pro's exclusive Colloidal-Copper formula allows for easy separation and reduces stud breakage of threaded assemblies after long exposures to extreme temperatures. It eliminates pitting of stainless and alloy steel even where dissimilar metals are joined.

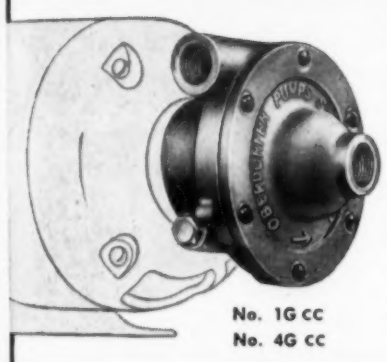
Conduct your own tests with C-5 "Hi-Temp" at our expense. Write on your company letterhead for Free Sample and complete data sheet TODAY!

594

FELT PRODUCTS MFG. CO. 1510 Carroll Ave., Chicago 7, Ill

▲ For more details circle NED-953 D4 on enclosed inquiry slip ▲

Close coupled, centrifugal, motor driven
OBERDORFER BRONZE PUMPS



No. 1G CC
No. 4G CC

1G cc is complete motor-pump unit with 1/12 H.P., 3450 RPM, 110 volt, A.C. ball bearing thermal overload motor. Motor frame Nema 42 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

4G cc is complete motor-pump unit with ⅓ H.P., 3450 RPM, 110 volt, A.C. thermal overload motor. Motor frame Nema 56 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

OVERALL DIMENSIONS—Motor and Pump Unit

Pump No.	Height	Width	Length	Suction	Discharge
1G cc	5"	4¾"	9"	⅜ N.P.T.	⅜ N.P.T.
4G cc	6⅝"	6 5/16"	11¼"	¾ N.P.T.	½ N.P.T.

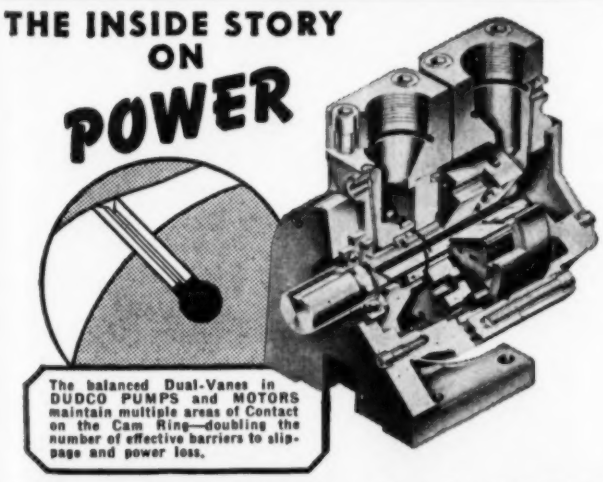
CAPACITIES—Gal. per min. —3450 RPM-Foot Water Head

Ft. Water	0	5	10	15	20	25	30	35
1G cc	7	6½	5	4	1½	—	—	—
4G cc	23	22	20	18	15	12	8	2

Oberdorfer Foundries, Inc., Ind. Pump Div.
244 Thompson Rd. Syracuse, N. Y.

▲ For more details circle NED-954 D4 on enclosed inquiry slip ▲

THE INSIDE STORY ON POWER



Bulletin No. DP-300 Gives You the FACTS on DUDCO DUAL-VANE HYDRAULIC PUMPS

DUDCO Vane Type PUMPS feature the exclusive Dual-Vane principle because it is the key to complete hydraulic balance and the elimination of excessive slippage and power loss. With single models of 3 to 60 gpm and double models with capacities from 24 to 120 gpm, DUDCO Pumps afford design engineers the advantages of equipment providing continuous pressures to 2000 psi.

WRITE for BULLETIN DP-300 . . . profusely illustrated...tells the entire story.

DUDCO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1709 EAST NINE MILE ROAD • HAZEL PARK • MICH.

▲ For more details circle NED-955 D4 on enclosed inquiry slip ▲

New Processes & Materials

MOLDED INSULATION for hot and cold pipe line fittings

Manufactured in preformed halves, line of molded, pipe-fitting Fiberglas insulation for rapid installation on hot and cold line fittings is light in weight, easy to apply and has long life. The inside conforms to the contour of the fitting and the outside forms a smooth, evenly curved surface which may be painted, or covered with canvas, vapor barrier, mastic or cement. Two halves can be stapled, wired or taped together for permanent or removable installation. Sizes to fit standard cast iron fittings for ½ to 8 in. pipe and standard butt welded long radius fittings for 2 to 8-in. pipe are available. Certain types can be used to insulate gate and globe valves. Made by **Owens-Corning Fiberglas Corp.**, Nicholas Bldg., Toledo 1, O.

▲ For more details circle NED-956 D4 on enclosed inquiry slip ▲

SYNTHETIC RUBBER for repair and maintenance

Formulated to spread like paint and to rubberize quickly at normal temperatures, APCO synthetic rubber forms a tough flexible film which adheres to a wide variety of materials including plastic, metal, wood, fabric, glass, leather, cork, plywood, sponge rubber and tinfoil. It will not crack or chip and has good resistance to weathering. Developed from Neoprene, it is available in neutral, black and colors and in mastic grades for marine use. A further application is for installation of tiled floors. Made by **Adhesive Products Corp.**, 1662 Boone Ave., Bronx, N. Y.

▲ For more details circle NED-957 D4 on enclosed inquiry slip ▲

RUBBER LATEX ADHESIVE for porous and semiporous materials

Compounded rubber latex adhesive is designed for bonding wood, wood fiber board, felts, fabrics and other porous and semiporous materials by simple pressure. It adheres to another film of the same adhesive but not to uncoated surfaces. Two coated surfaces can be cold-combined at any time desired with up to a month's delay between coating and combining if necessary. Designated Syntex L-852, adhesive provides a firm flexible bond over temperatures from −10 to 150° F, and has good moisture resistance provided contact with water is not constant. Water base provides nonflammability during application, which can be by brush, spray or flow gun with coverages from 300 to 450 sq ft per gallon. A thin film dries in about 1 hour. Product is available in 1, 5, and 55-gallon containers. Made by **Flintkote Co.**, Industrial Products Div., Dept. D1, 30 Rockefeller Plaza, New York 20, N. Y.

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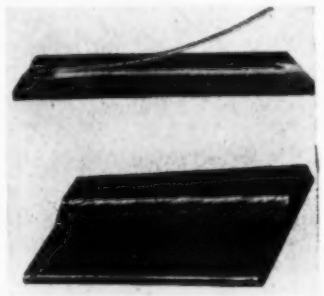
WELDING ELECTRODE has powder metal coating



Designed for fast welding speeds and easy operation, Jetweld electrode has a powder metal coating for operation in flat or near-flat positions with alternating or direct current. It is especially well suited for horizontal and flat fillets and laps, single and multiple pass butts, deep grooves and corners and cover pass on multiple pass butts, with typical speeds varying from 12 to 15 ipm. Smooth self-cleaning spatter-free welds are produced. As-welded tensile strength is 93,000 psi, yield point is 79,000 psi and elongation in 2 in. is 15 to 22 per cent. Electrode is of the "drag" type and operates with the coating touching the work. This simplifies tack welding and operator training. Made by **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, O.

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Shells, beads, or American dollars—no enterprise is successful unless it shows a profit. Kester quality and performance assure you profitable production results at the lowest possible cost. To put more "wampum" in *your* "wigwam," always insist on Kester Solder!

HAVE YOU written for your free copy of the Kester Technical Manual, "SOLDER and Soldering Technique"? Won't you do it today?

KESTER

SOLDER COMPANY
1249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

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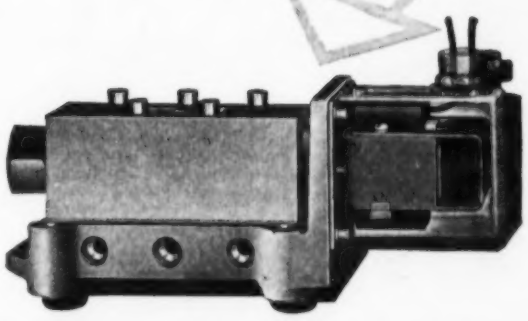
Quick-As-Wink
AIR AND HYDRAULIC
Control Valves

FEATURE THIS MONTH



1/8" and 1/4" Single Solenoid Valves

They'll give you up to 300 cycles a minute
For air to 125 psi—vacuum—
or low pressure hydraulic service

● These valves combine the utmost simplicity in design with rugged construction. They will give you millions of cycles of highly satisfactory, efficient, trouble-free service. Small solenoid, with short stroke operates the valve plunger, eliminating levers, links and pins. Low amperage requirement eliminates intermediate relays and simplifies electrical control circuits. Side or bottom pipe connections. Valve body and solenoid are both mounted on an aluminum base and can be removed independently without disturbing the piping. 2, 3, 4 and 5-way actions. *Write for full details today!*

also the following

LEVER OPERATED SINGLE PLUNGER VALVES
Two position and three position valves, ⅜" to 1½" sizes; 2-way, 3-way and 4-way actions. Widely used for controlling the operation of single and double acting cylinders or as pilots for operating other valves.

PILOT CYLINDER OPERATED HYDRAULIC VALVES
Two position valves, ½" to 4" sizes, for line pressures from 1000 to 5000 psi. Valve is placed close to the work and operated from a central control point with an easy to handle air valve avoiding operator fatigue.

For Fully Descriptive Data Sheets Write
C. B. HUNT & SON, Inc.
Hand, Foot, Lever, Cam, Pilot, Diaphragm and Solenoid Control Valves
2021 EAST PERSHING STREET • SALEM, OHIO

▲ For more details circle NED-961 D4 on enclosed inquiry slip ▲

THE Improved FLEX-A-FOAM FILTER MASK

Your best ounce of protection against IRRITATING DUST

HERE'S WHY:

★ **Workers wear it** Lightweight (just 1 ounce), snug, comfortable and easy-to-breathe through, Flex-a-Foam is the *one* respirator your workers actually *welcome*.

★ **It's super-efficient** Flex-a-Foam's pure latex filter protects against nuisance dust particles 100 times smaller than the eye can see!

★ **It's simple** Only four sturdy, long-wearing parts — all interlocking — all *unconditionally* guaranteed.

★ **And—it's economical** *Low first cost* — less than any other *quality* respirator on the market. *Low upkeep* — washable filter outlasts throwaway type by more than 100 to 1!

Dust Protection Your Workers Will Welcome and *Wear*

SAMPLE STILL ONLY $1.40 POSTPAID

FLEX-A-FOAM® FILTER MASK

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

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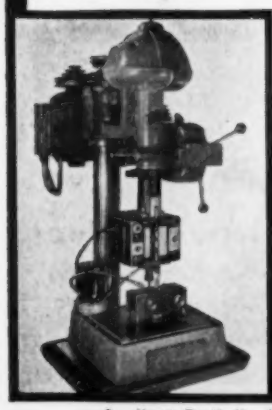
Commander LEAD-MATIC *Tapper*

Automatic Tapper with Lead Screw

FOR HIGH PRODUCTION PRECISION TAPPING

- Precision Ground Lead Screws Assure Finest Threads
- Electrically Controlled Cycle or Jog Tapping Action
- Hand, Foot or Fixture Switch Control
- Easily Adapted to Any Drill Press
- Range #0 to ¾"

Built for high production tapping . . . precision or otherwise, the Commander Lead-Matic Tapper makes any drill press a precision tapping unit, even with inexperienced operators. Electric control of Cycle or Jog tapping action provides versatility to handle any job . . . automatic tap reversal eliminates drill press motor reversing and speeds tapping. Compact, ruggedly built, easy to operate, the Commander Lead-Matic Tapper will cut your tapping costs and reduce rejects to a minimum.



Write for illustrated circular and name of nearest Distributor.

Commander MFG. CO.
4220 W. KINZIE ST. • CHICAGO
PRODUCT OF COMMANDER... BUILDER OF PRODUCTION TOOLS

See Us at Booth No. 823 ASTE Show, Philadelphia, Pa.

▲ For more details circle NED-963 D4 on enclosed inquiry slip ▲

NEW TO INDUSTRY "UNITED" BURRING MACHINE

Deburrs • Grinds • Contour-Polishes

INSIDE-OUTSIDE SURFACES *at the Bench!*

SINGLE OR DOUBLE ARMS ADJUST CLOCKWISE TO 12 DIFFERENT OPERATING POSITIONS

BELT SIZE 42" x 1"

Faster, cheaper, better than hand filing. United gets into corners, angles, follows curves and irregular surfaces. Works inside openings over 1¾".

Backing platen cushioned with webbing to save wear on abrasive belts. Idler pulley (Approx. 1¼" diam.) is rubber covered to use as contact wheel. Uses any abrasive. Five models, 1/3 or ½ H.P., A.C. 110 V. —1750 and 3450 R.P.M.

Money-saving Machine for Aluminum Die Casts, Metal Parts, Steel, Plastics, Wood, Molded Rubber—For tool and die work, pattern making, precision finishing and similar uses.

FOR PRICES AND SPECIFICATIONS WRITE FOR FOLDER NO. 54

Territory Available To Responsible Mfr. Agents

United Machine Tool Co.

1930 Nelson St., S.E. Grand Rapids 7, Mich.

▲ For more details circle NED-964 D4 on enclosed inquiry slip ▲

New Literature & Catalogs

Self-Lubricating Bearings

Chrysler Corp., Amplex Div.—Heavy-duty self-lubricating Oilite bearings for a wide variety of applications are covered in 28-page illustrated catalog S-53. Also shown are core, bar and plate stock of the same materials. The more than 700 different stock sizes of these products are listed. Oilite is useful for bearings where cleanliness is essential as in food processing machinery as well as for use under severe load conditions.

▲ For more details circle NED-965 D4 on enclosed inquiry slip ▲

Electrification

Feedrail Corp.—44-page bulletin No. 40 illustrates and describes a steel-enclosed trolley busway system for safe electrification of cranes, hoists, assembly and production lines, moving test lines, portable and machine tools and other powered mobile equipment. Bulletin is designed to facilitate planning and layout of electrification systems. It contains sections on equipment used, installation planning and procedure and mounting methods.

▲ For more details circle NED-966 D4 on enclosed inquiry slip ▲

High Current Test Instruments

Multi-Amp Corp.—Portable high current test instruments in two series with ratings of 1 and 2.5 kva are covered in 4-page illustrated catalog MA-154. Electrical specifications, dimensions and applications are given. Units accurately test and calibrate such equipment as meters, current transformers, circuit breakers and fuse links.

▲ For more details circle NED-967 D4 on enclosed inquiry slip ▲

Laboratory Furniture

Schaar & Co.—48-page illustrated catalog AK-54 covers such laboratory furniture and utility equipment as basic sink, cupboard and drawer units, chairs, desks, shelving units, storage cabinets, carts and ladders. Parts storage bins and various types of faucet are among the items. Detailed descriptions and prices are given.

▲ For more details circle NED-968 D4 on enclosed inquiry slip ▲

Electrical Control Systems

Clark Controller Co.—24-page illustrated booklet "Control Centers by Clark" describes use of alternating current motor control centers to provide centralized electrical control systems. Typical installations, specifications, construction details and planning hints for project, planning and layout engineers are featured.

▲ For more details circle NED-969 D4 on enclosed inquiry slip ▲

Oscillograph Recording Systems

Sanborn Co., Industrial Div.—One, two and four-channel oscillographic recording systems and accessories such as amplifiers, threshold monitor, recorder assemblies and galvanometers are covered in 38-page illustrated catalog. Illustration, technical data and specifications include material on series 150 system featuring interchangeably plug-in preamplifiers.

▲ For more details circle NED-970 D4 on enclosed inquiry slip ▲

Electric Vibrators

Cleveland Vibrator Co.—Models RC and MC electric vibrators for assisting bulk materials flow in bins, chutes, hoppers and similar containers are covered in 4-page illustrated catalog No. 10. They are designed for light and heavy duty applications, respectively, and are available in standard voltages. All technical data and specifications are given.

▲ For more details circle NED-971 D4 on enclosed inquiry slip ▲

Cam Followers

Smith Bearing Co.—High capacity stud cam followers of roller bearing type are designed for operation under severe conditions. Illustrated six-page folder No. 217 gives life and load ratings and specifications. Design and construction features are also fully covered. Followers are available in roller diameters from 0.5 to 3.25 in.

▲ For more details circle NED-972 D4 on enclosed inquiry slip ▲

Steel Reinforced Flooring

United Laboratories, Inc.—Uses and advantages of Steel-Rock steel reinforced flooring are found in descriptive bulletin. Flooring is designed for trucking aisles, loading docks and other areas subjected to severe abuse. Use can be on interior or exterior wood or concrete surfaces.

▲ For more details circle NED-973 D4 on enclosed inquiry slip ▲

Big Shaper Performance Small Shaper Price

The SHELDON 12" Back-Geared Shaper is neither too big, nor too small. It is just right for most shaper work in most tool rooms and shops.

In weight, design features, capacity and performance, it is a "big shaper." In price, operating cost and floor space, it resembles a "small shaper." It is the logical 1st shaper for the small shop and a cost-cutting tool in multiple installations in large plants.

Be sure to see this and other SHELDON Machine Tools in operation at ASTE Show, Philadelphia. Booths 810-12.

Write for Catalog.

SHELDON
CHICAGO U. S. A.

SHELDON MACHINE CO., Inc., 4215 N. Knox Ave., Chicago 41, Illinois

▲ For more details circle NED-974 D4 on enclosed inquiry slip ▲

"Filter cartridge replacement costs cut in half!"

That's the report we've been getting from MICRO-KLEAN filter users everywhere. They get twice the effective life of an ordinary cartridge filter because MICRO-KLEAN's graduated density allows greater capacity for dirt accumulation.

Cuno's MICRO-KLEAN gives micronic filtration at high flow rates; its low pressure drop operation permits full-flow service on gravity, low pressure or suction lines.

Send for Cuno's free filtration analysis form, fill it out, and mail it to us. We'll let you know exactly what you need to handle your filtration requirements — without obligation. Cuno Engineering Corp., Dept. 7014M, Meriden, Conn. M.3.14

Remember . . . if you can pump it, Cuno can filter it

▲ For more details circle NED-975 D4 on enclosed inquiry slip ▲

★ Complete Shelf Rearrangement *IN SECONDS* with Berger's New Flexi-Bilt Bins

Quick easy shelf adjustment is an exclusive feature of Berger's Flexi-Bilt Parts Bin. It never becomes obsolete. A complete shelf rearrangement takes only seconds. And, there's no need for tools, bolts or clamps. Strong, rigid all-steel construction.

For complete information and specifications write for Catalog EA 972.

REPUBLIC STEEL CORPORATION
BERGER MANUFACTURING DIVISION
1084 Belden Ave., Canton 5, Ohio • Export Dept.: Chrysler Bldg., New York 17, N. Y.

▲ For more details circle NED-976 D4 on enclosed inquiry slip ▲

No. 150K SpeedWay SpeedSander KIT

Sands, Cleans, Rubs, Polishes—MOTOR-DRIVEN 3/16" ORBITAL-MOTION

No. 150 SpeedSander with powerful direct-connected, 3450 r.p.m. 110 v., A.C. air-cooled motor. No gears nor gear-housing to collect grit and dust. Sealed ball-bearings thruout. Cast-aluminum body and chrome plated—in hand weight only 5 lbs. Natural grip, all-position handle with sliding thumb switch and 3 wire rubber-covered cord. Handy, fitted, steel carrying case with accessories including: thick neoprene Contour Pad, steel Surfacing Plate, free abrasive Felts, lamb's wool Polishing Bonnet, 90 Abrasive Sheet Covers (18 each of 5 grits) and hardboard Template that cuts three 4½" x 6½" covers from standard 9" x 11" abrasive sheets.

$49.50 KIT COMPLETE

Write for Catalog

SpeedWay MANUFACTURING CO.
1892 So. 52nd Avenue • Cicero 50, Illinois

For more details circle NED-977 D4 on enclosed inquiry slip

It's used in advertising devices, aeroplanes, air brake equipment, alarm systems, armatures, lightning arresters, automobiles, bakery equipment, batteries, loose leaf binders, boats, bowling alleys, carburetors, card index equipment, circuit breakers, electric clocks, coils, commutators, computing machines, condensers, controllers, conveyors, counters, cranes, cut outs, electric heating equipment, electric lighting systems, electric railway cars, electric trucks, electric warning signals, electric washing machines, electric welding machines, elevators, fans, office furniture, fuses, gears and pinions, generators, hoists, knitting machinery, linotype machines, locomotives, mining machinery, motors, motion picture machines, printing presses, pumps, radio and television equipment, railway cars, refrigerator equipment, regulators, relays, rheostats, safety equipment, shoe lasts and counters, shuttles and spools, sporting goods, stage lighting equipment, starting and lighting equipment, switches, switchboards, telephone apparatus, textile machinery, toys, transformers, trunks, vacuum cleaners, X-ray apparatus—and many, many other applications.

what's the material of a million uses?*

*** It's National Vulcanized Fibre—**

A product your business can use to advantage. Write to Dept. J-4 for informative catalog.

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE
FIRST—IN MAKING THE MOST OF LAMINATED PLASTICS

For more details circle NED-978 D4 on enclosed inquiry slip

New Processes & Materials

SILICONE LEATHER PRESERVATIVE
protects work shoes from oil, heat

Work shoes and leather equipment can be kept soft and pliable despite deteriorating influences found in most industrial plants with Shoe Saver silicone leather preservative. Applied with soft cloth or swab, product does not seal pores, but coats individual fibers, permitting treated leather to "breathe." In auto plant tests, treated shoes showed no oil penetration after six weeks, as compared to untreated shoes which were saturated with hydraulic oils and kerosene after two weeks. Treatment also increases resistance to abrasion and heat. Developed by **Dow Corning Corp.**, Dept. IS, P. O. Box 592, Midland, Mich.

For more details circle NED-979 D4 on enclosed inquiry slip

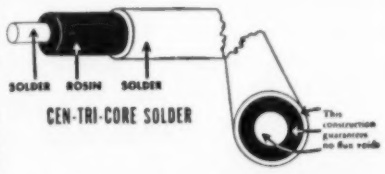
STRAPPING TAPE
pressure sensitive and gummed types

Strapping system of this company has been expanded to include pressure sensitive and gummed strapping tapes, as well as dispensers, for all applications. Tapes are filament-reinforced to provide high tensile strength. Company will also continue to supply steel strapping which, like the tape, is available in a range of sizes. Made by **Sharon Steel Corp.**, Brainard Steel Div., 3100 Griswold St., Warren, O.

For more details circle NED-980 D4 on enclosed inquiry slip

ROSIN-FILLED SOLDER
made in various alloys and diameters

Cen-Tri-Core energized rosin-filled solder consists of a solder wire coated with rosin over which is formed an outer solder sleeve (see illustration). This design virtually eliminates rosin voids and assures continuity of flux. Solder features simultaneous wetting-flow and noncorrosive and electrically nonconductive rosin. It conforms to Federal Specification QQS-571b, Par E-2a. Made by **Alpha Metals, Inc.**, 57 Water St., Jersey City 4, N. J.



For more details circle NED-981 D4 on enclosed inquiry slip

ADHESIVE FOR TEFLON
retains properties from —55 to 200° C

Developed for bonding Teflon to itself and to other materials such as metals, glass, paper and other plastics, Flexrock 80 pressure sensitive adhesive is suitable for use over temperature range from −55 to 200° C. Teflon - to - Teflon peel strengths of approximately 2 lb per inch of width and shear strengths of 12 to 15 psi minimum are developed. Adhesive has a dielectric strength of from 550 to 650 v per mil and has good acid and alkali resistance. It is not recommended for use in presence of organic solvents. It is applied by brush, knife, spray or dip coating methods and can be air or heat dried. Made by **Flexrock Co.**, Packing Div., 3603 Filbert St., Philadelphia 1, Pa.

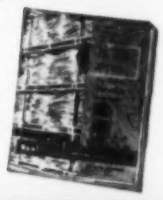
For more details circle NED-982 D4 on enclosed inquiry slip

LET US SHOW YOU HOW TO CUT WAREHOUSING COSTS . . . as much as 75%

Paltier STORAGE SYSTEM

PALTIER records are filled with proof after proof of storage cost cuts in the handling of every conceivable type of product. We can cut your storage costs, too!

ASK US:
- PALTIER studies your storage problem—engineers and designs a system for your specific needs.
- Many PALTIER installations pay for themselves "right from the start."
- This booklet tells the PALTIER story, ask for it today.



THE PALTIER CORPORATION
1705 KENTUCKY ST.
MICHIGAN CITY, IND.

For more details circle NED-983 D4 on enclosed inquiry slip

Performance Proves 20% to 90% LESS VIBRATION with Veelos—the Balanced V-Belt

Regular v-belts have spots of varying density due to their construction. Normally, these spots are not apparent, yet they throw the belt out of balance when the drive is operating. As a result, vibration is created that can damage bearings, shafts and, most important, the finished work.

This is not true of Veelos v-belts.

Veelos is absolutely uniform throughout its entire length. Every link and stud is identical. The smooth, machine-cut sides and the laminated construction assure smooth, vibrationless power delivery. Veelos is perfectly balanced.

In case after case, installation of Veelos v-belts has reduced machine vibration 20% to 90%.

Proof that Veelos will reduce vibration can easily be demonstrated with an electronic vibration analyser. This analyser measures amplitude of vibration to as low as 2-millionths of an inch.

Fifteen minutes of your time is all that is required to show you with the electronic analyser that Veelos creates less machine vibration. Drop us a line for a demonstration.

MANHEIM MANUFACTURING & BELTING COMPANY
650 Manbel Street, Manheim, Pa.

Veelos is known as Veelink outside the United States

For more details circle NED-984 D4 on enclosed inquiry slip

NEW! LOW-COST PILLOW BLOCK

FAFNIR Type PB
"Economy Package"

. . . incorporates Fafnir Wide Inner Ring Bearing with Self-Locking Collar.

The new Type PB Series Pillow Block is developed to fill a specific need for a high-quality, *precision* ball bearing unit *at lowest possible cost.* It is designed for *light duty* applications. Send for descriptive bulletin. The Fafnir Bearing Company, New Britain, Connecticut.

OUTSTANDING FEATURES INCLUDE
- Two-piece, separable pressed steel housing.
- Self-alignment at assembly
- Compact . . . lightweight
- Pre-lubricated bearing . . . Plya-Seal protected
- For shaft sizes up to and including 1¼".

FAFNIR BALL BEARINGS Most Complete Line in America

For more details circle NED-985 D4 on enclosed inquiry slip

SILVER GRAPHALLOY
BRUSHES
AND
CONTACTS

...for applications requiring low electrical noise, low and constant contact drop, high current density and minimum wear.

GRAPHALLOY

EXTENSIVELY USED IN

SELSYNS • ROTATING THERMOCOUPLE and STRAIN-GAGE CIRCUITS • ROTATING JOINTS GUN-FIRE CONTROLS • DYNAMOTORS etc.

Wide range of grades available for standard and special applications.

Brush holders and coin silver slip rings available for use with Silver Graphalloy Brushes.

Write us for Data Sheets and further information. Outline your problem and we will apply our "40 years' experience" toward its solution.

OTHER GRAPHALLOY PRODUCTS:

Oil-free, self-lubricating Bushings and Bearings (applicable −100° to +300° F.; with expansion coefficient half that of steel will not seize shaft at low temperature); oil-free Piston Rings, Seal Rings, Thrust and Friction Washers, Pump Vanes.

GRAPHITE METALLIZING CORPORATION
1030 NEPPERHAN AVENUE • YONKERS, NEW YORK

For more details circle NED-987 D4 on enclosed inquiry slip

BIN BOTTOM
BULK MATERIAL
BIN-FLO UNIT
AIR SUPPLY

BIN-FLO USES SMALL VOLUME OF AIR AT LOW PRESSURE

KEEPS BULK MATERIALS MOVING

BIN-FLO units in bins, chutes, hoppers, etc., restore flow characteristics to dry, finely ground materials which tend to pack or bridge in storage. Types for all materials and conditions. No moving parts; simple installation; negligible operating cost; no maintenance cost.

BIN-DICATOR bin level indicator—"The Eyes of the Bin"—automatically reports levels of materials in storage; automatically controls filling machines; prevents waste.

NEW 20-PAGE BOOK FREE

THE BIN-DICATOR CO.
13946-A Kercheval • Detroit 15, Mich.

For more details circle NED-988 D4 on enclosed inquiry slip

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FLAT SPRAY
FULL CONE
HOLLOW CONE

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle NED-989 D4 on enclosed inquiry slip

New Literature & Catalogs

Two-Cycle Engines

Power Products Corp.—"Application of the Small 2-Cycle Engine to Power Equipment" is title of 20-page illustrated reprint of an S.A.E. paper. It contains 22 illustrations describing application, principles of operation and engineering and mechanical features of two-cycle gasoline engines.

For more details circle NED-990 D4 on enclosed inquiry slip

Hydraulic Transmissions

Vickers, Inc.—20-page illustrated manual SE-15 provides a descriptive summary of servo pump units and their application in hydraulic transmissions. Units are essentially electrically-controlled variable-delivery positive-displacement hydraulic pumps combined with rotary or linear hydraulic motors. Output capacity ratings ranging from 1 to 400 hp have been attained.

For more details circle NED-991 D4 on enclosed inquiry slip

Cylindrical Grinding

Landis Tool Co.—"The Landis Approach To Cost Reduction" is 20-page illustrated booklet showing cost savings through use of modern cylindrical grinding equipment and methods. Plain grinders with spaced wheels, automatic cycles, multiple wheel grinding, angular wheelhead grinding, special tooling and special purpose machines are among the items illustrated.

For more details circle NED-992 D4 on enclosed inquiry slip

Seamless Metal Hose

DK Mfg. Co., Cobra Metal Hose Div.—Designed for high pressure, high temperature and highly corrosive conditions, seamless monel and nickel flexible hose is specified in 10-page catalog 100 along with stainless, bronze and steel types. Application data point up wide range of materials and sizes.

For more details circle NED-993 D4 on enclosed inquiry slip

Industrial Batteries

Chicago Forging & Mfg. Co., Battery Div.—Detailed data pertinent to Varley VIS and VIL industrial batteries are tabulated in 4-page folder. Former has 12½-in. plate, latter, 16-in. plate. Units feature full length plates, separators which completely fill space between plates, special lead alloy grid and vibrationproof construction.

For more details circle NED-994 D4 on enclosed inquiry slip

Snap-Around Volt-Ammeters

Pyramid Instrument Corp.—A model snap-around volt-ammeter for every job and budget is shown in 4-page catalog 134. Included are three new high voltage Amprobe Junior models for industrial plant use; four models for electricians and service men; and multi-range Amprobes for higher current requirements.

For more details circle NED-995 D4 on enclosed inquiry slip

Electric Hoists

Coffing Hoist Co.—All 17 models of electric hoists in the Quick-Lift line, ranging from 500 to 4000-lb in capacity, are described and specified in 6-page bulletin QL. Performance and safety features are highlighted along with cutaway drawings showing construction details. Electric hoist accessories are covered as well.

For more details circle NED-996 D4 on enclosed inquiry slip

Centerless Precision Lapping

Size Control Co.—Precision lapping by centerless method, what it is, and how it will help you is discussed in 4-page bulletin L-53. Model 200 centerless lapping machine described is suited for producing finishes of 1½ microinches or less and tolerances of 0.000005-in.

For more details circle NED-997 D4 on enclosed inquiry slip

Elevator Belting

B. F. Goodrich Co.—24-page engineering handbook on elevator belting describes and illustrates types of belt bucket elevators, gives factors for belt selection, outlines procedures for engineering correct belt and describes belt construction features. Data tables refer to weights of materials handled, holding properties of various fabrics, determination of belt weight and thickness, drive factors, sines of elevator slope angles, belt speed, plies needed for tension requirements, pulley diameters, belt quality and cover thickness.

For more details circle NED-998 D4 on enclosed inquiry slip

IDEA FOR PRACTICAL ACTION

FREE Fact Sheet Shows How to Mount FULLERGRIPT Power Brush for Conveyor Cleaning

Many users of conveyors are cutting operating costs by the installation of a Fullergript brush to clean dirt and product accumulations from the belt. To help you we have prepared a sheet with sketches showing how to hitch up and install different types of Fullergript power brushes. A copy will be sent upon request. Simply write to ...

INDUSTRIAL Fuller BRUSH CO. DIVISION
3530 MAIN STREET • HARTFORD 2, CONNECTICUT

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

For more details circle NED-999 D4 on enclosed inquiry slip

YOU CAN BE SURE.. IF IT'S Westinghouse

Life-Line SK D-C MOTORS AND GENERATORS

FREE to D-C motor users

HERE ARE TWENTY PAGES OF FACTS ON THE LIFE-LINE SK D-C MOTOR. THIS BOOK SHOWS WHY AND HOW NEW DEPENDABILITY HAS BEEN ADDED TO THE WELL-KNOWN SK ... INCLUDES INFORMATION ON CONSTRUCTION, MOUNTING, TYPES OF ENCLOSURES, PERMISSIBLE MOTORS.

GET YOUR COPY FREE!

Simply mail a penny post card asking for a copy of Life-Line SK D-C Motor Booklet, B-4595. Address: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.
J-2156

Westinghouse Life-Line D-C Motors

For more details circle NED-1000 D4 on enclosed inquiry slip

on panels, doors or covers where frequent opening and closing are required... specify

CAMLOC FASTENERS

TIGHTER
QUICKER
ECONOMICAL

VIBRATION-PROOF
In years of constant use in aircraft—where vibration is always a bugaboo—CAMLOC Fasteners have proven themselves again and again.

POSITIVE LOCKING
Spring loading plus cam action, with a cross pin that can't come out, guarantee CAMLOC Fasteners against accidental opening.

OPEN & CLOSE QUICKLY
A quarter-turn with a screw driver—or of the wing head—opens or closes the CAMLOC Fastener... important where quick access is vital.

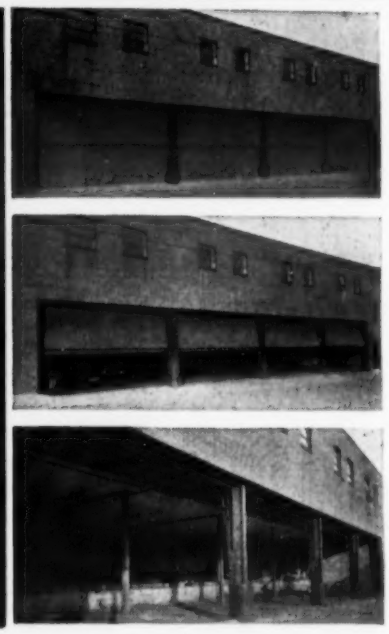
SAVE MONEY 3 WAYS
CAMLOC Fasteners cost less to install... eliminate costly replacement because they're made to take frequent use... fewer do the job.

Write for our illustrated brochure containing descriptive information on the basic Camloc fastener line. Address your request to 80 Spring Valley Road, Paramus, N. J.

CAMLOC FASTENER CORPORATION
MAIN OFFICE AND FACTORY PARAMUS, N. J.
WEST COAST OFFICE 5410 WILSHIRE BOULEVARD LOS ANGELES 36, CALIF.

▲ For more details circle NED-1001 D4 on enclosed inquiry slip ▲

FAST-MOVING STEEL DOORS for every industrial purpose



The door requirements of garages, warehouses, loading platforms, factories and other commercial structures can be served with high efficiency by Truscon Steel Industrial Doors, either mechanically or hand-operated. Available in wide variety including straight slide, accordion, vertical lift, turnover, lift-swing, canopy, crane and other types. Write for illustrated literature showing complete Truscon line.

TRUSCON® STEEL DIVISION
REPUBLIC STEEL
1096 Albert Street Youngstown 1, Ohio

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Order a BRUNT FAULTFINDER today and prevent a shutdown tomorrow

Don't gamble against a ground on an energized power circuit. It can cause a costly production shutdown tomorrow. Only the Brunt Faultfinder can make sure it won't happen. Country's largest manufacturers depend on it. Price $450, express prepaid.

PRINCIPAL FEATURES

- Imposes only 2 amperes on circuit.
- Can be used in dark or noisy locations.
- No pulling of switches or interference with production.
- Locates faults on ungrounded wiring systems up to 550 volts, a.c. or d.c.
- Traces pole line signals without climbing.
- Combination ground detector and fault locator.
- Equally strong signal on open or enclosed wiring.
- No delicate meters or instruments to adjust.
- Compact, durable—easy one-man operation.
- Phase indicator lights visible at distance.

SEND ORDER TODAY

SEND FOR THIS NEW BOOKLET

Parr ELECTRIC CO. INC
40 Austin Street
NEWARK 5, N. J.

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New Processes & Materials

RUBBER-BONDED ABRASIVES compounded with silicon carbide

Series of rubber cushioned abrasives compounded with silicon carbide has been added to Brightboy line. Resilience of the bond together with evenly dispersed abrasive adapt wheels for a wide variety of operations on both hard and soft metals, from burring to finishing and polishing. Grain sizes from extra fine to extra coarse are available in wheels, disks, sticks, rods, cylinders, tablets and blocks for machine and manual operations. Made by **Weldon Roberts Rubber Co.**, Brightboy Industrial Div., Sixth Ave. & N. Thirteenth St., Newark 7, N. J.

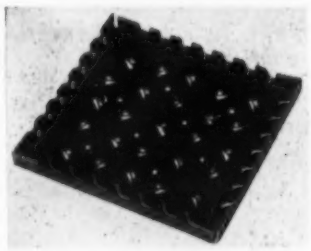
▲ For more details circle NED-1004 D4 on enclosed inquiry slip ▲

ADHESIVE for joining rolls of material

Designed for joining rolls of film, paper and other materials, Bondmaster 59 is a pressure-sensitive adhesive which offers high tack and good bond strength, in addition to heat resistance. It is brushed on to the leading edge of the roll of material to be joined, an automatic splice being formed as the trailing edge of the next roll comes in contact with it. Free sample is available for test purposes from **Rubber & Asbestos Corp.**, Dept. P, 225 Belleville Ave., Bloomfield, N. J.

▲ For more details circle NED-1005 D4 on enclosed inquiry slip ▲

STEEL FLOORING PLATES installed by imbedding in concrete



Hard, abrasion resistant surface is provided by Ancor Steel-Clad floor made up of rolled steel plates embedded in concrete. They are held in place with 25 surface "anchors" in each square foot and 28 edge "anchors" to prevent movement in any direction. Buckling, curling, cracking and noise are eliminated. The resulting 31 smooth concrete islands per square foot provide a safe, quiet surface. Installation can be over sound wood floors, new or old concrete, or in place of worn brick, wood blocks, faulty metal plates or sheets. Made by **Flash-Stone Co.**, 3727 Pulaski Ave., Philadelphia 40, Pa.

▲ For more details circle NED-1006 D4 on enclosed inquiry slip ▲

Fielden TEKTOR

ELECTRONIC LEVEL CONTROL

- *Simple, Fail-Safe, Hi or Lo Level Control*
- *Available in Class I-D, Class II-F & G Construction*
- *No Moving Parts, Only One Radio Tube*
- *Accurate Level Control as Close as 1/16"*
- *Low First Cost, Low Operating Cost*

The Fielden TEKTOR provides constant, accurate level indication or control of any material—liquid, divided solid or interface, conducting or non-conducting, wet or dry. Offers a low cost solution to practically every problem of fixed level control or limit alarm without need for special apparatus. Operates visual or audible alarms, motor starters, solenoid valves, timers and other equipment simply, accurately by means of a highly stable capacitance operated relay circuit. Does not depend on electrical conductivity. Ideal for remote control or warning. Provides all the accuracy needed at a sensible price. Thousands now in use. Write for detailed information to Dept. .

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FIELDEN INSTRUMENT DIVISION
2920 N. 4th St., Dept. 6, Philadelphia 33, Pa.

Dollar for Dollar—Your Best Instrument Value

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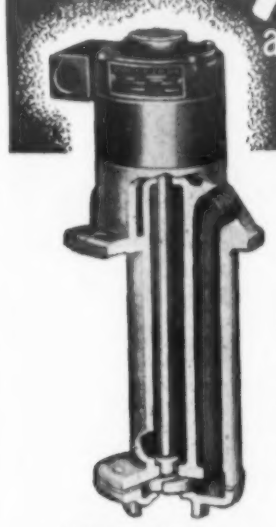
you can save money on

Brady COOLANT and INDUSTRIAL PUMPS



(cutaway view)
MODEL 7500 the best available for long trouble-free machine tool service.

DESIGNED AND BUILT FOR your specific job

Designing special pumps for specific jobs has been a Brady service for many years. Brady small centrifugal pumps are currently being used as original equipment by leading manufacturers of air conditioning, refrigeration, dairy, machine tool and many other industries. If you have a pump problem or would like a recommendation on your pump requirements, write to our Engineering Department. There is no obligation, of course, and literature on our regular line is also available.

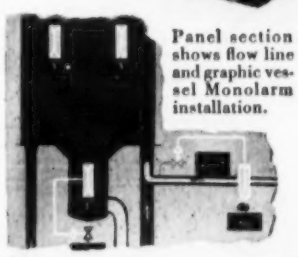
Brady CORPORATION 1001 E. 18th Street Muncie, Indiana

▲ For more details circle NED-1008 D4 on enclosed inquiry slip ▲

Announcing... R&S Monolarm®

CLASS I, GROUPS C & D, Div. 2

Matching pilot light with Monolarm for continuity of panel appearance.



Panel section shows flow line and graphic vessel Monolarm installation.

...the Compact signal alarm unit ideal for flow line and graphic panels!

MONOLARM is the safe, reliable signal alarm unit designed for modern panelboards—especially where flow lines and graphic vessels require signal alarms utilizing minimum panel space.

Monolarm offers instant warning against any abnormality occurring in a processing operation at any time—and safeguards against expensive losses of production and materials. Should any abnormality occur, the normal light ceases to shine ...the alarm light flashes rapidly on and off...also an external howler, if used, is sounded. Acknowledgment by the operator must be made by turning the re-set switch . . . the alarm light then assumes a steady state until the condition is remedied ...then Monolarm automatically resumes its normal indication.

• *Write for Sales Data Sheet #21253—15*

Advantages of R&S MONOLARM

1. A single narrow bezel and button fits into a flow or graphic line diagram without interrupting the continuity of the design story.
2. Occupies minimum back-of-panel mounting space.
3. Lighting indications in two or three colors on *one* bezel.
4. Relamping is quick and easy from the front of the panel.
5. Instantaneous connect and disconnect of the power supply cable to Monolarm is provided by an interlocking switch receptacle and plug.
6. Hermetically sealed plug-relays instantly removable if replacement is necessary.
7. Time delay circuit available to counteract turbulence and vibration when abnormal condition is reached.

RUSSELL & STOLL COMPANY, INC. • 125 BARCLAY ST., N. Y. 7, N. Y.

RUSSELL & STOLL
PRECISION-BUILT ELECTRICAL EQUIPMENT—SINCE 1902

▲ For more details circle NED-1009 D4 on enclosed inquiry slip ▲

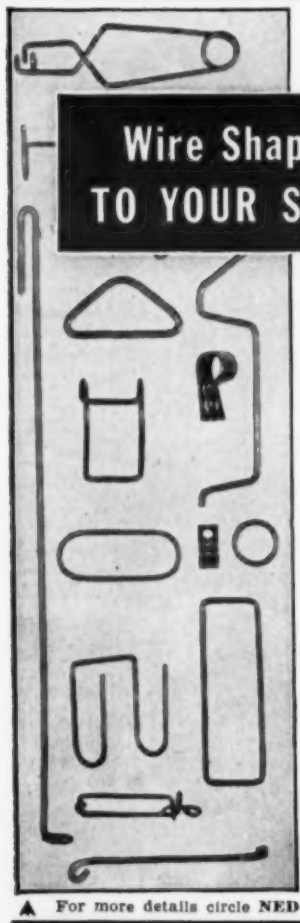
The flakes in aluminum pigments *overlap* in the Aluminum Paint film in parallel layers. It is this coat of protecting metal which provides the great durability and other extra protection values inherent in Aluminum Paint. MD Aluminum Pigments are used by leading paint manufacturers in the formulation of good Aluminum Paint. It pays to use such paint.

Send for your copy of the new ALUMINUM PAINTING HANDBOOK. It is filled with ideas and uses for aluminum painting.

METAL POWDERS
METAL PIGMENTS
METAL ABRASIVES

METALS DISINTEGRATING CO., INC.
Elizabeth B, New Jersey

▲ For more details circle **NED-1011 D4** on enclosed inquiry slip ▲



Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle **NED-1012 D4** on enclosed inquiry slip ▲

CUT... OPERATING — MAINTENANCE — SPOILAGE COSTS!

ON YOUR TAPPING JOBS!

Procunier Tappers are the last word in economical, efficient, high speed tapping. Only Procunier has the unique construction features that permit inexperienced operators to tap like experts. Procunier Tappers provide many extra hours of continuous, accurate tapping without frequent "down-time" interruptions. Procunier Tappers are producing more—with fewer rejections, fewer spoiled pieces and a minimum of broken taps.

Only Procunier provides: new sensitive double cone friction clutch; soft cushioned action driving pressure; ball-bearing equipped; heat treated gears; special balanced gear reversing mechanism; smaller-lighter more accurate tru-grip tap holder; and many others.

Write for FREE Brochure

Giving full particulars on the complete line of Procunier Tapping Machines. Learn how you can adapt them to your specific needs.

Visit our booth #1621 at the ASTE Show

Procunier Safety Chuck Company
18-20 S. Clinton St., Chicago 6

PROCUNIER SAFETY CHUCK CO.
18-20 S. Clinton St., Chicago 6, Ill.
Dept. 4

Gentlemen: Please send your illustrated brochure giving complete details, specifications and prices on the improved line of Procunier High Speed Tapping Heads.

Name .....
Address .....
City ..... Zone ... State ...

▲ For more details circle **NED-1013 D4** on enclosed inquiry slip ▲

New Processes & Materials

PIPE THREAD COMPOUND has Teflon base for all pipe types

Use of Flexrock 25 Teflon Pipe Dope on chrome, chrome plated, nickel, steel, ceramic and plastic pipe threads makes possible good sealing of lines without application of maximum torque. Use can be on lines conveying strong acids, alkalies and solvents at temperatures from −150 to 500° F. Its good lubricating qualities prevent galled threads and permit easy pipe joining and dismantling. Inert material is presently available in 4-oz cans at $5 for test purposes. Made by **Flexrock Co.,** Packing Div., 3603 Filbert St., Philadelphia 1, Pa.

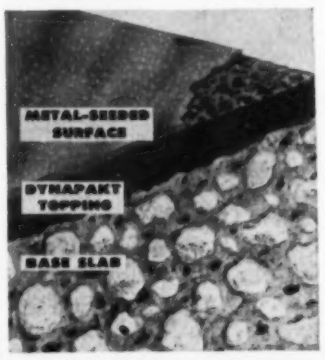
▲ For more details circle **NED-1014 D4** on enclosed inquiry slip ▲

PLASTIC SEALER for air, water and steam lines

Pipe joints, screw threads, gasket joints and flanges on lines handling water, air, ammonia, gas and steam can be sealed with Vike Water Seal. It is an easy-to-apply soft plastic material that will not shrink, crumble or crack. It is also useable on bolts and studs. Material contains no corrosive substances and can be broken easily when necessary. Packaging is in 1, 7, 25, 100 and 400-lb quantities. Made by **Keystone Lubricating Co.,** 3100 N. 21st St., Philadelphia 32, Pa.

▲ For more details circle **NED-1015 D4** on enclosed inquiry slip ▲

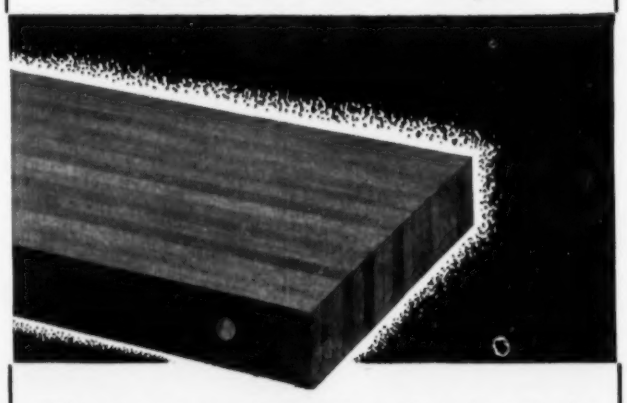
METAL AGGREGATE strengthens concrete floor surfaces



Strength can be added to heavily traveled concrete floor surfaces by the use of Metal-Seeded Dynapakt. Product is installed as a 1/8-in. "veneer" of iron-chip aggregate to form a nonspalling, noncrumbling, nonslip armor over fresh Dynapakt concrete topping. Entire operation is performed with heavy duty power equipment to insure maximum compaction and adhesion of concrete and metal. Made by **Flash-Stone Co.,** 3727 Pulaski Ave., Philadelphia 40, Pa.

▲ For more details circle **NED-1016 D4** on enclosed inquiry slip ▲

LAMINATED BENCH TOPS edge grained hard maple



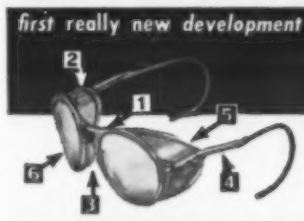
Tolco tops are manufactured from select pieces of edge grained, hard northern maple. Narrow ¾" maple laminations are electronically glue welded into a homogeneous solid mass. Twice as many laminations, twice as much adhesive means maximum wearability with minimum moisture absorption and warpage. Reinforced with concealed steel tie rods. Finished with non-toxic sealers and lacquers. Tolco tops save on tools and assembly parts. Sizes range from 1¼" to 3" thick, up to 12 feet long and 36" wide. Write for complete information and prices.

THE TOLERTON COMPANY
P.O. Box G658 — Alliance, Ohio
Established 1894

▲ For more details circle **NED-1017 D4** on enclosed inquiry slip ▲

first really new development in safety spectacles in years!

WILLSON "Contour-Spec"*



Style WCS47
Covered by Design Patent 168,988

***New*... hinged bridge gives snug, comfortable fit...self-adjusting to any facial contour!**

1 **New hinged bridge** combines the flexibility of cup-type goggles with the lightweight, compact protection of safety spectacles.

2 **One all-purpose size** permits universal fit. Bridge hinge gives automatic adjustment to any bridge width from 18-26 mm.; one eye size—47 mm.—fits everybody. *No need to stock a variety of bridge and eye sizes.*

3 **Plastic nose-and-cheek pads** provide *full closure* around eye cavity.

4 **Contour-shaped** adjustable plastic-and-cable temples hold spectacles firmly in place.

5 **Matching sideshields** are perforated plastic, providing protection at sides—*fold back* for pocket compactness.

6 **Butyrate frame**—*toughest plastic used for spectacles.* Standard frame is flesh colored, fitted with 6-curve Willson Super-Tough* glass lenses. Available also with green frame and sideshields, fitted with Willsonite* Super-Tough green glass lenses.

Hinged to fit any face snugly!
See how the unique hinged bridge allows the Contour-Spec to open up to fit broad faces and close up for narrow faces. It's this feature that allows Contour-Specs to contact the entire eye cavity and makes them fit so comfortably, yet securely.

Order a supply of Contour-Specs from your Willson distributor. Let your workers try their amazingly greater comfort, and see how they're preferred over ordinary safety spectacles!

More Than 300 Safety Products Carry This Famous Trademark
WILLSON *Established 1870* *Trademark

WILLSON PRODUCTS, INC., 219 Washington Street, READING, PENNA.

▲ For more details circle **NED-1018 D4** on enclosed inquiry slip ▲

"Buffalo" Evaporative Coolers SAVE WATER!

- FOR COOLING CUTTING OILS
- FOR DIESEL COOLING
- FOR ANY LIQUID IN A CLOSED SYSTEM

Quality features that contribute to the Q* Factor

1. INSTALLATION ECONOMY—Sectionalized construction permits moving thru standard doorways. Compact—can be installed near related units (outdoors, too).
2. WATER ECONOMY—Only slight loss thru evaporation. (Units operating efficiently in Arabian Desert, where all water is hauled in.)
3. OPERATING ECONOMY—Efficient Evaporative Cooling Principle. Little fan and pump power required. Simple maintenance. CLEAN closed-system cooling.
4. POSITIVE, DEPENDABLE TEMPERATURE CONTROL proved by years in the Diesel Field.

WRITE FOR BULLETIN 3666

* The "Q" Factor—The built-in Quality which provides trouble-free satisfaction and long life.

BUFFALO FORGE COMPANY
215 Mortimer St., Buffalo, New York
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

▲ For more details circle **NED-1019 D4** on enclosed inquiry slip ▲

Specify **GRC WING NUTS**

TO DO A GOOD JOB.
LOOK BETTER,
COST LESS!

GRC offers quick service, low cost on strong, good-looking wing nuts of rust-proof zinc alloy. All commercial finishes, all popular thread sizes. Wing nuts with special threads or untapped wing nuts also available. Inquiries invited for special wing nut designs.

Write today for samples and prices.

IMMEDIATE DELIVERIES IN ANY QUANTITY
World's Foremost Producer of Small Die Castings

GRIES REPRODUCER CORP.
143 Beechwood Avenue, New Rochelle, N. Y.
Telephone: NEw Rochelle 3-8600

▲ For more details circle **NED-1020 D4** on enclosed inquiry slip ▲

For high efficiency in creating high vacuum

CVC's type MCF fractionating oil diffusion pumps are designed particularly for high efficiency in pumping large gas loads or gases of low molecular weight.

This series of high vacuum pumps ranges from a 2-inch diameter model for exhausting cathode ray tubes to models several feet in diameter for giant synchrocyclotrons and linear accelerators. Ultimate vacuum is 5 x 10^{-7}mm Hg at 25° C without cold baffles or traps.

A new data sheet describes the MCF series in detail. We would like to send you a copy, or to discuss any problem you have that might involve the creation, measurement, or use of high vacuum. Write *Consolidated Vacuum Corporation, Rochester 3, N. Y.* (a subsidiary of Consolidated Engineering Corporation, Pasadena, California).

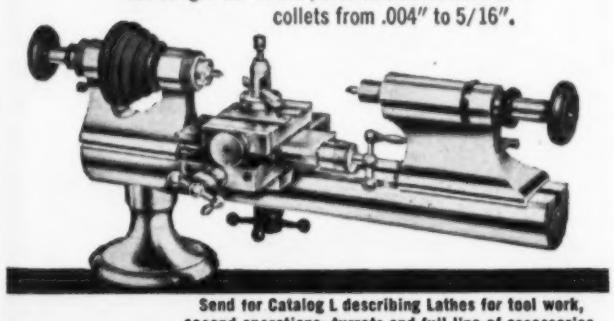
CVC

Consolidated Vacuum Corporation
Rochester 3, N. Y.
designers and manufacturers of high vacuum equipment
SALES OFFICES: Palo Alto, Calif. • Chicago, Ill. • Camden, N. J. • New York, N. Y.

▲ For more details circle NED-1021 D4 on enclosed inquiry slip ▲

SMALL INSTRUMENT PARTS ARE MADE BEST ON LEVIN® LATHES

Twenty-three models for all types of work. 4" swing, Bed Length 12" or 18"; over 100 stock sizes of collets from .004" to 5/16".



Send for Catalog L describing Lathes for tool work, second operations; turrets and full line of accessories.

LOUIS LEVIN & SON, INC., 3610 S. BROADWAY, LOS ANGELES 7, CALIF.

▲ For more details circle NED-1022 D4 on enclosed inquiry slip ▲

Whether Your Liquid Measuring Problem Involves Gallons . . . .

or Barrels

or Tank Cars . . . .

THE *Fluidometer* SYSTEM

—with its exclusive automatic reset, gives accurate and completely automatic batching of either light or heavy liquids.

Write for Bulletin FI-49

HETHERINGTON & BERNER INC.
719 Kentucky Avenue • Indianapolis 7, Indiana

▲ For more details circle NED-1023 D4 on enclosed inquiry slip ▲

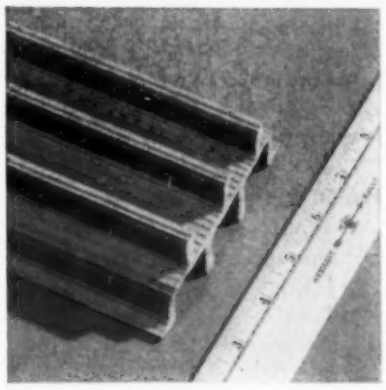
New Processes & Materials

PASTE-TYPE TIN-LEAD SOLDER cleans, tins, sweats in one action

Sweat soldering and tinning operations are speeded up with use of paste-type Swif 50-50 tin-lead solder which cleans, tins and sweats in one operation. Precleaning, preheating and separate application of flux are eliminated. Solder is simply brushed on, then heated to complete job. In laboratory tests, solder withstands pull of 2000 lb on ½-in. copper sweat joints as well as over 3600 psi hydrostatic pressure. It is packaged in 3-oz trial size, ½-lb, 1-lb and 3-lb containers. Typical sweat joint is shown. Made by **Hercules Chemical Co.,** Dept. D-1, 332 Canal St., New York 13, N. Y.

▲ For more details circle NED-1024 D4 on enclosed inquiry slip ▲

PLASTIC WATER STOP is three-rib labyrinth type



A three-rib size polyvinyl plastic water stop added to Labyrinth line is designed for intermediate size of concrete pours for walls, slabs, footings, etc. Product is flexible for easy handling and for use in curved forms. Labyrinth design assures permanent water-tight seal between concrete pours. Plastic is impervious to chemical deterioration in concrete, is easy to cut and can be quickly spliced in water-tight weld by using only heated knife blade. Made by **Water Seals, Inc.,** Dept. 101, Chicago, Ill.

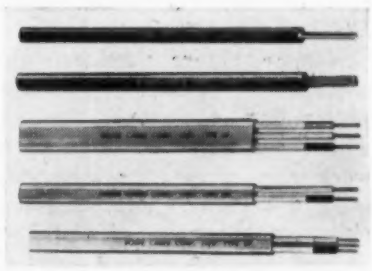
▲ For more details circle NED-1025 D4 on enclosed inquiry slip ▲

INDUSTRIAL RECORDING PAPERS available in lightweight surface

Du Pont Seismo-Writ and Lino-Writ industrial photographic recording papers are now available in lightweight surface W. Paper is made entirely of rag stock and is not only lighter, but stronger than heavier standard weight surface B. After emulsion is applied, paper's average thickness is 0.0035-in., compared with 0.0055-in. for standard surface. With semimatte surface, paper readily accepts pencil markings or ink. It is thin enough to be used as paper negative for reproduction of additional prints by contact method. Weighing 55 grams as compared with 100 grams for standard surface, lightweight paper is available in the same sizes and quantities with no change in prices. Made by **E. I. du Pont de Nemours & Co.,** Wilmington 98, Del.

▲ For more details circle NED-1026 D4 on enclosed inquiry slip ▲

MULTIPURPOSE ELECTRICAL CABLE for branch and feeder circuits



Single, two and three conductor FlexAll electrical cable is now available designed for underground feeder service, or for installations where dampness or corrosive action are encountered. Multiple conductors are also suitable for interior wiring, either exposed or concealed and in wet or corrosive locations, when suitably protected. Single conductor has insulation and sheath of Synthinol type TW thermoplastic compound. Two and three conductor is insulated with same compound while individual wires are covered with glass yarn wrap. Exterior sheath of Synthinol is resistant to abrasion, moisture, corrosion and flame. Single conductor is offered in 14 through 4 AWG sizes, multiple conductor, in sizes 14 through 10 AWG. They are UL-approved. Made by **Rome Cable Corp.,** Dept. RF-1, Rome, N. Y.

▲ For more details circle NED-1027 D4 on enclosed inquiry slip ▲

Quick Acting Couplers put Air at your fingertips

Plug in compressed air as you would electricity with **Schrader Quick Acting Couplers.** Spot couplers along walls, benches or columns to put air just where it's needed. Plug in your air tools close to the work.

A simple push locks air line in place, automatically starts air flowing. A swivel action prevents hose kinking. Line cannot be accidentally uncoupled—it requires a definite man-made twist on the sleeve. Uncoupling automatically shuts off air.

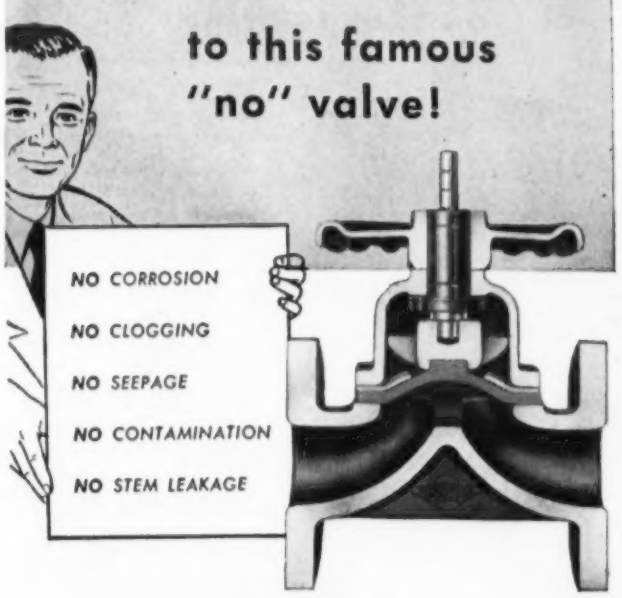
Available in many sizes, both for standard and heavy duty work, Schrader Quick Acting Couplers make air one of your most useful tools. You'll find full details in the Schrader catalog. Send for it today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave. Dept. E-42 Brooklyn 38, N. Y.

▲ For more details circle NED-1028 D4 on enclosed inquiry slip ▲

Say Yes . . .

to this famous "no" valve!



For better results, use the versatile

GRINNELL-SAUNDERS DIAPHRAGM VALVE

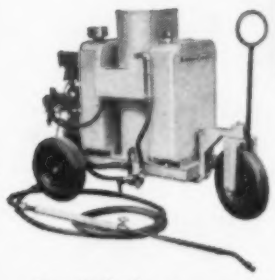
Piping in today's complex industrial plants is an exacting science involving the handling of highly corrosive fluids, gases, compressed air, beverages, foods and suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are costly factors. Under such conditions, the amazing performance of the Grinnell-Saunders Diaphragm Valve explains its acceptance by industry after industry.

The basic design of the valve is one big advantage. Working parts are completely isolated from the fluid stream which, in the case of corrosive acids, means longer valve life. Then, there is the matter of economy. With Grinnell-Saunders Diaphragm Valves, it is usually possible to go to less expensive body materials, to which special body linings can be added. Replacement and maintenance expenses, moreover, are greatly reduced. No wonder industry after industry is "Saying Yes" to Grinnell-Saunders Diaphragm Valves. Write for catalog.

GRINNELL
WHENEVER PIPING IS INVOLVED
Grinnell Company, Inc., Executive Offices, Providence, R. I.
Sales Offices and Warehouses in Principal Cities

▲ For more details circle NED-1029 D4 on enclosed inquiry slip ▲

"TOOL UP"
for your cleaning jobs
PREVENT FIRES



with HYPRESSURE Jenny STEAM CLEANER

You'll find a new source of savings and profits, plus greater plant safety, when you "tool up" for cleaning jobs with Hypressure Jenny Steam Cleaner. Jenny removes grease, cutting oils, and protective coatings from machinery, equipment, sub-assemblies, and castings, before repair, repainting or machining—ten times faster than by ordinary methods! It promotes safety by eliminating the fire hazard of greasy conveyor chains and floors, and the use of inflammable cleaning solvents. It cleans ribbed glass windows; keeps floors and runways free of dirt and grease for safer, faster plant traffic, and often reveals damaged or worn parts for repair before production delays or breakdowns occur. Jenny does most any cleaning job for one-tenth the cost of cleaning by hand. So find out how easy it is to bring these savings and safety to your plant.

Send for Catalog today for full facts.

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING CO.
"Serving Since 1892"
P.O. BOX 84 CORAOPOLIS, PA.

▲ For more details circle NED-1030 D4 on enclosed inquiry slip ▲

SAVE 3 WAYS
WITH STAYNEW HYDRAULIC FILTERS
ON YOUR EQUIPMENT

MODEL HE
Hydraulic Filter

1. SAVE WEAR ON COSTLY EQUIPMENT
2. SAVE SPOILAGE AND REJECTS AT POINT OF USE
3. SAVE MAN HOURS WASTED IN EQUIPMENT REPAIRS AND MAINTENANCE

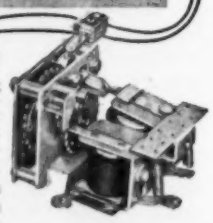
For top performance and economical operation, specify Staynew Filters as original equipment on your hydraulically operated machinery. All types of metallic mesh and fabric media are available.

Our Enginering Department will welcome the opportunity of recommending the type of Staynew Filter best suited for your specific need. Write today for Bulletin HF-2.

Representatives in Principal Cities

DOLLINGER STAYNEW FILTERS
DOLLINGER CORPORATION
49 Centre Pk., Rochester 3, N. Y.
ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

▲ For more details circle NED-1031 D4 on enclosed inquiry slip ▲



SERIES M.E.R. Guardian Midget Electrical Reset Stepper keeps the reset magnet open, allows the ratchet to reset freely on a pulse of 10 milli-seconds. Stepping magnet releases lock mechanism on first step to ready unit for recycle. Standard unit has one disk with one finger rotating counter-clockwise. Two fingers available. Up to 21 of total 24 points on disk are active. Rated at 10 steps per second. Voltage ranges: 6 v. to 115 v. A.C., 60 cycles, or 6 v. to 110 v. D.C. Auxiliary small combination contact switches can be mounted on ratchet or on either magnet. New 3-point mounting for easy installation.

SERIES M.A.S. Stepper. A compact dependable Add and Subtract unit.
SERIES M-120 Stepper. Up to 3 position contact combinations.

Write for catalogs featuring Guardian Steppers, Relays, Solenoids, Switches, Solenoid Contactors and Hermetically Sealed Controls.

GUARDIAN ELECTRIC
1626-D W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ For more details circle NED-1032 D4 on enclosed inquiry slip ▲

New Literature & Catalogs

Flat Steel Strapping

United States Steel Corp., Gerrard Steel Strapping Div.—Uses of U.S.S. Gerrard heavy duty flat steel strapping system are described in 8-page brochure. Photos show various models of strapping equipment and auxiliaries available. Technical data are listed.

▲ For more details circle NED-1033 D4 on enclosed inquiry slip ▲

Metallic Abrasive Materials

Cleveland Metal Abrasive Co.—Detailed descriptive material on complete line of metallic abrasives is provided by 16-page illustrated catalog 1153. It tells how to select proper abrasive for individual needs, and explains shot peening and abrasive impact cleaning processes. Abrasive consumption chart lists various abrasives and gives their consumption rate in pounds per wheel hour.

▲ For more details circle NED-1034 D4 on enclosed inquiry slip ▲

Lightweight Structural Materials

Rolle Mfg. Co.—Use of lightweight structural materials in contemporary product design is subject of 16-page booklet "New Horizons for Product Improvement." It considers aluminum, magnesium and Fiberglas, with an appraisal of their possible future applications. How Fiberglas laminations are molded is discussed along with methods of forming the metals. Sand and permanent mold casting processes are emphasized.

▲ For more details circle NED-1035 D4 on enclosed inquiry slip ▲

Electrical Ovens & Furnaces

Blue M Electric Co.—Compiled for general and analytical laboratories, pilot plant and production, 4-page brochure describes gravity and recirculating electric ovens, Magni-whirl water baths and Lab-Heat furnaces. Units range in temperature from 100 to 2000° F.

▲ For more details circle NED-1036 D4 on enclosed inquiry slip ▲

Industrial Cleaner

Philadelphia Quartz Co.—Properties and uses of Metso 99, sodium sesquisilicate, are presented in 12-page booklet with respect to basic detergent characteristics of wetting, emulsification, dirt suspension and prevention of redeposition. Product's ability to protect sensitive metals, such as magnesium, copper, zinc and brass, when used alone or in conjunction with synthetics and polyphosphates, is effectively illustrated.

▲ For more details circle NED-1037 D4 on enclosed inquiry slip ▲

Mercury Switches

Minneapolis-Honeywell Regulator Co., Micro Switch Div.—Covered in 12-page catalog 90 are standard designs of mercury switches for use in alternating and direct current industrial and commercial switching applications that provide low force and tilt motion. Protected, heavy duty, general use, small and sensitive types are dealt with. Section on technical data and application aids is included.

▲ For more details circle NED-1038 D4 on enclosed inquiry slip ▲

Standard Time Data

"Handbook of Standard Time Data" is title of 473-page volume written by A. A. Hadden, President, and V. K. Genger, vice-President, of McClure, Hadden & Ortman, Inc. It makes available detailed standard time data for establishing machine shop time values. With data presented, it is possible to determine, before work goes into the shop, the best sequence of operations, most economical method of performing each operation and a standard time which can be relied upon to represent a fair day's work for an average man. Tables offered can be used in bid and quotation work; in production planning; establishment of uniform production schedules as well as shop policies; and in establishing factual basis for incentive plans as well as standard costs for machining operations. Volume is priced at $10.00 and is published by Ronald Press Co., 15 E. 26th St., New York 10, N. Y.

▲ For more details circle NED-1039 D4 on enclosed inquiry slip ▲

Air-Operated Presses

American Steel Foundries, Elmes Engineering Div.—Description and specifications of Hydrolair power operated production presses are found in illustrated bulletin 1036-A. Power is taken from the shop air line. Units feature continuous high pressure stroke with constant preset ram pressure.

▲ For more details circle NED-1040 D4 on enclosed inquiry slip ▲

AMAZING NEW UTILITY
1954 FOSTORIA LOCALITES
for Machine Tools, Assembly Inspection

MODEL 2-MP-700
Overall length 31"

$7.32 Each
in std. pkg. of 8
Less $9.15 ea.

Reflector—Semi-spherical shape with 6¾" orifice. Rotates 360°. Accommodates 100 watt A-21 or 60 or 40 watt A-19 lamp. Available with lens if desired.
Arm Joints — New patented tension disc. Easy, smooth action with only one hand. Available with 1, 2 or 3 arms.
Base—Universal for vertical or horizontal mounting. Also adaptable to outlet boxes. Collet revolves 360°.
Wiring — McGill industrial socket 4101-FL with Levolier switch. 8 ft. POT-32 18-2 heavily insulated oil resistant wiring with molded plug.
Finish—Gray baked enamel. Reflector interior, high temperature White.

Directs Light Exactly as Needed

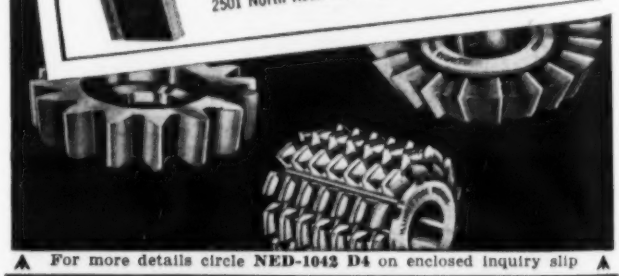
WRITE for complete catalog of Localite models for every industrial use.
THE FOSTORIA PRESSED STEEL CORPORATION
Fostoria, Ohio
Localites available through wholesalers everywhere

LOCALITE fostoria for Light ON the Job

▲ For more details circle NED-1041 D4 on enclosed inquiry slip ▲

Tops in Quality!
ILLINITE®
STANDARD CUTTING TOOLS
Now you can have End Mills, Saws, Milling Cutters, Tool Bits, Hobs and Shaper Cutters featuring the design advantages and precision that have won such wide recognition for Illinois Tool Works engineered cutting tools.
AVAILABLE FROM STOCK AT LEADING DISTRIBUTORS

yours Free... write today for this complete catalog with price and dimensional data.
ILLINOIS TOOL WORKS
2501 North Keeler Avenue Chicago 39, Illinois



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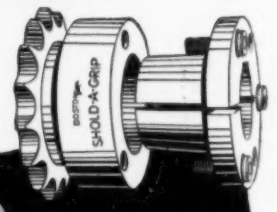
How cost-wise buyers rate
INTERCHANGEABLE TAPERED
BUSHINGS and SPROCKETS



GOOD BETTER ✓BOSTON Gear
SHOLD-A-GRIP
ELIMINATES RE-BORING
Fit all common sprocket sizes to broader range of shaft sizes

IN STOCK AT 92 BOSTON *Gear* DISTRIBUTORS at Factory Prices

Look under "Gears" in the Yellow Classified Section of your Telephone Directory for the one nearest you.
Get Sprocket Catalog Supplement SC-2, and handy SHOLD-A-GRIP Selection Chart. Saves time and trouble in drive assembly and maintenance. Ask your BOSTON Gear Distributor, or write: Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

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For HIGHEST ELECTRICAL & MECHANICAL Efficiency!

New JONES 2400 SERIES PLUGS & SOCKETS

Improved Socket Contacts. Four individual flexing surfaces. Positive contact over practically their entire length.

Both Plug and Socket Contacts mounted in recessed pockets greatly increasing leakage distance, INCREASING VOLTAGE RATING. Plug and Socket Contacts cadmium plated. Add to appearance of your equipment. Interchangeable with Jones 400 Series.

Ask for Catalog 18. Complete line Jones Plugs, Sockets, Terminal Strips.

P-2406-CCT Plug — with cable clamp in top.

S-2406-SB Socket with shallow bracket for flush mounting.

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-1044 D4 on enclosed inquiry slip

for original equipment vacuum pumps call on GAST

Motor-Pump Model 0406—To .6 CFM, 25" vac. Wt. 16 lbs., 10¼" long.

V-belt Model 1550-V2—To 10 CFM, 15" vac. For paper feeding, etc.

Heavy-duty, fan-cooled Model 1065-V4-34. To 28" vac. with ½ HP.

Heavy-duty, fan-cooled V-belt Model 2565-V12A. To 21 CFM, 28" vac.

Some accessories standard.

YOU GET HIGH QUALITY that solves product problems with long-lived high performance . . . a result of dependable rotary-vane design plus rigid quality control.

A WIDE CHOICE OF SIZES from five basic types to 24 CFM or 28" vacuum. Some models oil-less construction. Our volume sales cut your costs!

YOU GET FULL COOPERATION from Gast engineers backed by over 25 years' experience building vacuum pumps for original equipment. For willing cooperation, call on Gast!

Write GAST—describing your specific application. Request Catalog and "Ideas" Booklet.

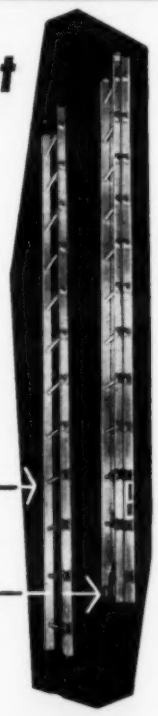
see our catalog in PRODUCT DESIGN FILE or write for copy

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS (TO THREE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

For more details circle NED-1045 D4 on enclosed inquiry slip

Buy Once...Buy Right
Buy ALCO-LITE
ALUMINUM LADDERS



In addition to their exceptional safety and ease of handling, ALCO-LITE aluminum ladders offer the careful industrial buyer a real opportunity to hold down expenditures for minor equipment. Their heavy duty design and durable alloy aluminum construction keep ALCO-LITE ladders in service year after year.

TYPE DLL STRAIGHT LADDER
Light weight channel construction with foolproof gusset and bushing rung mounting. Sizes 6 ft. to 16 ft., for light industrial and field use.

TYPE DLL EXTENSION LADDER
Two sections of Type DLL ladder, with rope, locks, and pulley. in three sizes, extending to 13, 18 and 21 ft., respectively. An unusually handy ladder for any type industrial plant.

Write for complete information.

ALCO-LITE ALUMINUM LADDERS
ALUMINUM LADDER COMPANY
346 CARBIS STREET • WORTHINGTON, PENNA.

For more details circle NED-1046 D4 on enclosed inquiry slip

New Processes & Materials

PLASTIC PIPE pressure is rated by size

PressuRated plastic pipe is made in pressure ratings of 75, 100 and 125 psi in sizes ½ through 2 in., the specified working pressure being the same in all sizes. Each size will withstand the working pressure for which it is rated. Pipe stocking and handling is improved by cardboard dispensing cartons which contain 100-ft coils of 75-lb rated pipe in ½, ¾, 1 and 1¼-in. sizes. All sizes are available in standard or half coils. Made by **Yardley Plastics Co.,** Dept. NED-354, 142 Parsons Ave., Columbus 15, O.

For more details circle NED-1047 D4 on enclosed inquiry slip

CORK PIPE INSULATION withstands temperatures to 200° F

Designed for dual temperature lines under moderate service conditions, type LT-30 cork pipe insulation is rapidly applied and will withstand temperatures up to 200° F. Relative humidity of surrounding air should not exceed 70 per cent and low liquid temperature should not fall below 30° F. Insulation is fabricated from segments of corkboard adhered to a three-ply vaporproof paper. It is furnished in 36-in. lengths to fit accurately all standard pipe sizes from ¼ to 12 in. It is applied to the pipe by an adhesive overlap, and end joints are reinforced by further strips of vaporproof paper. It can be removed and replaced without damage simply by cutting the overlap and end joint papers. Made by **Armstrong Cork Co.,** 1270 State St., Lancaster, Pa.

For more details circle NED-1048 D4 on enclosed inquiry slip

ZINC COATING is applied by brush or spray

Designed to permit "cold galvanizing" of equipment too large for hot dip treatment and for protection of existing structures, Dimetcote is an inorganic zinc coating that is applied by brush or spray same as paint. Zinc content of 23 lb per gallon gives one-coat applications long-lived resistance to salt and other corrosive conditions. Compound does not chalk or break down in sunlight or deteriorate appreciably with age. It gives cathodic protection to damaged areas in a similar manner to galvanizing. Made by **Amercoat Corp.,** Dept. ND, 4809 Firestone Blvd., South Gate, Calif.

For more details circle NED-1049 D4 on enclosed inquiry slip

PHOSPHORIC ACID CLEANERS prepare products for finishing

Group of phosphoric acid-type cleaners designated as series 800 is intended for products too large or heavy to be phosphate coated with normal production methods. Cleaners can be applied by brush, sponge, dipping or flowed-on methods and can be specified to incorporate detergency, oil solvency, rust and scale removal properties. In addition to cleaning functions, cleaners also deposit fine-grained crystalline structure of iron phosphate that becomes chemically interlocked with metal itself. Coating contains millions of microscopic crevices into which paint flows and is securely locked. Result is that peeling and flaking is retarded, corrosion is prevented and blistering due to corrosion under paint film is eliminated. Formulated by **Detrex Corp.,** P.O. Box 501-N, Detroit 32, Mich.

For more details circle NED-1050 D4 on enclosed inquiry slip

HOW GOOD CAN AN ELECTRIC HAND SAW BE?

Cuts inside holes without drilling a starting hole.

TRY LESTO AND SEE

RIP
SCROLL
BAND
JIG
CROSSCUT
COPING
KEYHOLE

Extremely fast for soft and hard wood, soft metal, bone, plastics, hard rubber, cement sheet, pressed wood, etc.

Cuts 2" Wood Beams

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Sold and Serviced in Principal Cities Throughout U.S.A.
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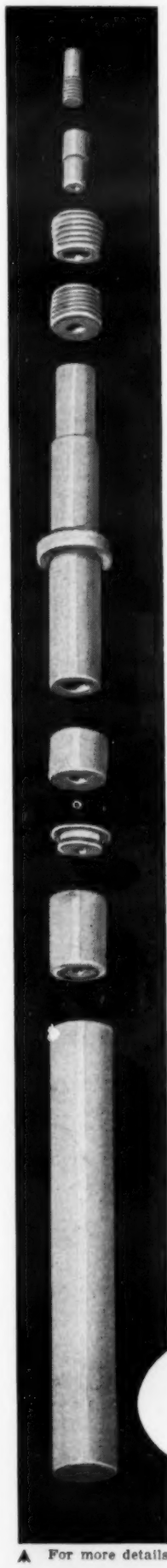
For more details circle NED-1051 D4 on enclosed inquiry slip



Quality Controlled

TEFLON and KEL-F STOCK and PRECISION FABRICATED PARTS

U.S.G. Quality Control extends through every operation from Powder to Part. It insures uniform electrical, chemical and physical characteristics of the highest quality. And it assures uniform density and dimensional stability permitting superior accuracy and dependability in the finished part.

Get the advantages of these fluorocarbon plastics at their best—fabricated by U.S.G.

Whatever your requirements—sheets, rods, tubing, bars, cylinders, tape, beading, extruded shapes, or parts machined or molded to your specifications, see U.S.G.

Write for bulletins No. 300 and No. 500.

UNITED STATES GASKET COMPANY
CAMDEN 1 • NEW JERSEY
FABRICATORS OF duPont TEFLON, Kellogg KEL-F AND OTHER PLASTICS
Representatives in Principal Cities Throughout the World

For more details circle NED-1052 D4 on enclosed inquiry slip

These 2 hands need a lot of protection

Give them the best . . . give them

ARMORKOTE Gloves

The roughest handling jobs in industry demand the safest hand protection. Plastic-coated ARMORKOTE Gloves—light, flexible and tough as a rhino's hide—give that kind of protection. Reports from plants using ARMORKOTE Gloves in handling oily steel, rough castings, lumber, cement blocks, barrels, bricks and scrap indicate that these heavy-duty gloves are giving better hand protection and keeping workers on the job.

You, too, can keep workers on the job, save money and increase production with ARMORKOTE—the only plastic-coated work gloves made of job-proved Jomac Cloth. Write for our complete catalog. Ask about a trial order. C. WALKER JONES Co., Dept. G, Philadelphia 38, Pa. *Plants in Philadelphia, Pa., and Warsaw, Ind.*

JOMAC

INDUSTRIAL GLOVES

outwear ordinary gloves by 700%

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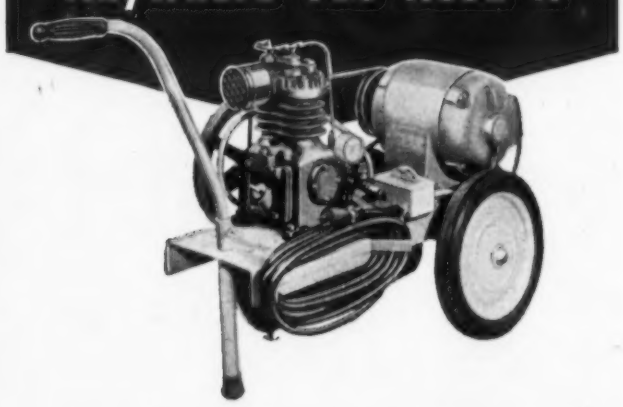
Have Compressed Air Anywhere You Need It



New DeVilbiss Portable Air Compressors bring air to the job for spray painting, air tools, emergency service, or on-the-spot air supply. Available in ½ or 1 hp class, gas and electric models. Delivered pressure 60 or 100 pounds. Can even be carried in the trunk of your car. Write today for full details.

DEVILBISS THE DEVILBISS COMPANY Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario • London, England

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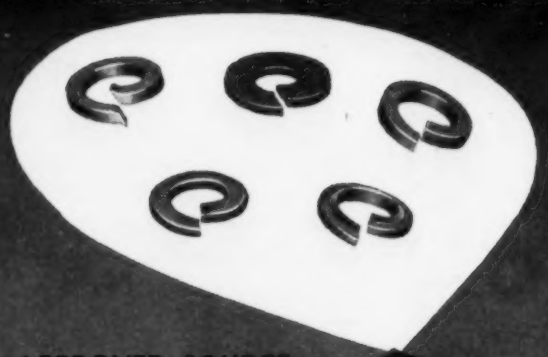
MAINTENANCE COSTS REDUCED

BOLTED ASSEMBLIES STAY TIGHTER

with **RELIANCE** SPRING LOCK WASHERS



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New Literature & Catalogs

Ball-Rod Mills

Denver Equipment Co.—36-page illustrated bulletin B2-B13 contains design, engineering and installation data on steel head ball-rod mills, steel head ball mills, steel head rod mills, high speed rod milling and two-stage grinding systems. Capacity tables, complete dimensions and specifications and other data are included.

▲ For more details circle **NED-1056 D4** on enclosed inquiry slip ▲

Standard & Special Motors

Brook Motor Corp.—Quickly visualized chart of electrical and mechanical features of standard and special motors is featured in 6-page catalog 1253 on line of 1 to 50-hp ac units. Line includes single-phase capacitor and polyphase squirrel-cage types. Each group includes open dripproof, splashproof, totally enclosed nonventilated and totally enclosed externally fan-cooled motors.

▲ For more details circle **NED-1057 D4** on enclosed inquiry slip ▲

Complete Sash Maintenance

Tremco Mfg. Co.—"Complete Sash Maintenance" is 16-page brochure which discusses caulking and glazing, painting rusted metal and sill restoration. It explores such subjects as mastic glazing versus putty, how windows are installed, how sash deteriorates and how sash trouble can be diagnosed and eliminated.

▲ For more details circle **NED-1058 D4** on enclosed inquiry slip ▲

Tubular Processing Equipment

Colonial Iron Works Co.—Standard line of exchangers, evaporators, crystallizers and other tubular equipment for process applications is detailed in 4-page illustrated catalog T-53. Exchangers employ IPS shells and are fabricated in one, two, four, six and eight-pass tube arrangements. Custom made line of tubular equipment is also covered.

▲ For more details circle **NED-1059 D4** on enclosed inquiry slip ▲

Knuckle Presses

Verson Allsteel Press Co.—Design details and specifications for line of Verson knuckle presses for such squeezing operations as coining, embossing or sizing are presented in 8-page illustrated catalog K-53. Presses have pressures near bottom of stroke ranging from 100 to 6000 tons.

▲ For more details circle **NED-1060 D4** on enclosed inquiry slip ▲

Blow-Off Valves

Yarnall-Waring Co.—Blow-off valves for boiler pressures up to 400 psi are described in 20-page illustrated bulletin B-426. Installation recommendations, construction details and prices of Yarway seatless blow-off and double-tightening blow-off valves are included.

▲ For more details circle **NED-1061 D4** on enclosed inquiry slip ▲

Wet or Dry Screen Type Separators

Southwestern Engineering Co., Sweco Separator Div.—Specific operating data on the use of Sweco vibrating screen wet or dry separators in such fields as chemical, food, lumber, petroleum, metals, stone and others are found in 8-page illustrated data file 106-175. A cut-away engineering drawing in color shows design features.

▲ For more details circle **NED-1062 D4** on enclosed inquiry slip ▲

Boiler-Burner Units

Kewanee-Ross Corp.—Descriptions and data on a complete line of boiler-burner units contained in 16-page illustrated catalog 1031 permit correct selection for any particular application to high or low pressure heating, power or process steam. Construction of both boiler and burner is shown, information is given on accessories and controls and capacities and specifications are tabulated. Ratings range from 39 to 304 hp.

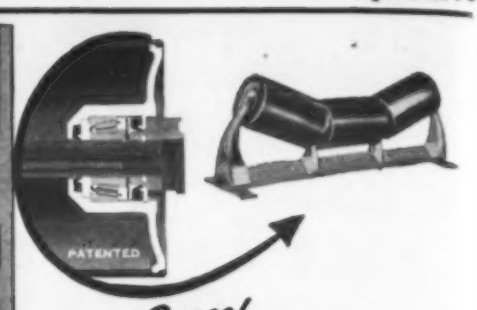
▲ For more details circle **NED-1063 D4** on enclosed inquiry slip ▲

Hydraulic Jet Cleaners

Sellers Injector Corp.—8-page illustrated bulletin "Hydraulic Jet Cleaners" contains case histories of use of equipment for heavy duty plant and machinery cleaning. Information is also given on mode of operation of these units, which combine plant steam with cold water to produce a penetrating cleaning spray and are available in a wide variety of capacities, types and with many different standard and specialized nozzles.

▲ For more details circle **NED-1064 D4** on enclosed inquiry slip ▲

USST



Saves Grease! Saves Labor! Saves Belts!

If You Use Belt Conveyors You Need

CONTINENTAL IDLERS

- UNIT-SEALED
- TIMKEN BEARINGS
- PRE-LUBRICATED

Write for Bulletin NED-116

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Birmingham 2, Ala.

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WHICH V-BELT is best for you?

If the correct size of endless V-Belt is not readily available, or if you have to tear down machinery to install, then the best belt to use is open-end V-Belting fastened with

ALLIGATOR **V-BELT FASTENERS**

★ In this way you can make up V-Belts in *any length* to fit *any drive* the fast economical way—V-Belts that perform exceptionally well.

★ In contrast to link-type belts these ALLIGATOR fastened V-Belts have just *one* strong joint . . . *stretch and follow-up maintenance are reduced to a minimum.*

ALLIGATOR INTRODUCTORY V-BELT DRIVE UNITS

contain V-Belting, Fasteners and Tools—everything you need in one compact package to make up V-Belts quickly. Available in sizes A, B, C & D.

Ask for Bulletins V-215 and V-216

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FLEXIBLE STEEL LACING COMPANY

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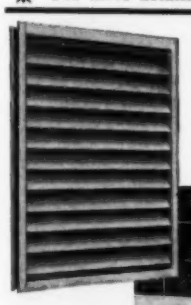

Airlouvers *have to fit...* **you order them** *that way*

Fill any wall opening with one or more weather-tight units tailored for the need . . . *without premium cost*

The wide size variation available in Airlouvers — the unique Swartwout louver system — virtually gives you custom-made equipment at economical standard costs. Odd-size units make it easy to fill any size opening with multiples of uniform sections.

Strong formed channel frame houses overlapping blades that assure weather-tightness. Adjustable style Airlouver features positive closing and quick change of blade position. Made in fixed-blade style also. Write for Bulletin ALO-C.

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The Swartwout Co.

Roof Ventilators and Ventilating Louvers

POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

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FOLD TO THIS LINE

To obtain additional information on any items in this issue of NEW EQUIPMENT DIGEST, circle numbers below which correspond with those of the desired items. Your request will be forwarded promptly to the manufacturer. Please give your name, title, company and address. This postage-free mailer should be folded as indicated for mailing.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
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19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169

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21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171
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36	86	136	186	236	286	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186
37	87	137	187	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987	1037	1087	1137	1187
38	88	138	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188
39	89	139	189	239	289	339	389	439	489	539	589	639	689	739	789	839	889	939	989	1039	1089	1139	1189
40	90	140	190	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190
41	91	141	191	241	291	341	391	441	491	541	591	641	691	741	791	841	891	941	991	1041	1091	1141	1191
42	92	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192
43	93	143	193	243	293	343	393	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193
44	94	144	194	244	294	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194

FOLD ON THIS LINE

45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
47	97	147	197	247	297	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197
48	98	148	198	248	298	348	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1098	1148	1198
49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

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D-4

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COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
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STURTEVANT TORQUE WRENCHES

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ADDISON QUALITY ILLINOIS

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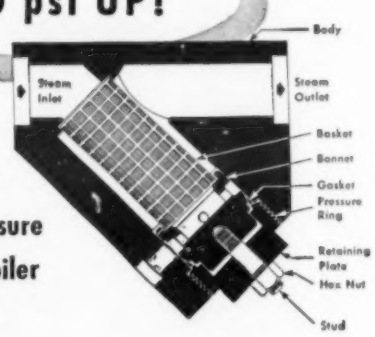

New Strainer for High Pressure Steam and Boiler Feed Service

A forged body and pressure seal joint are features of the new SK "Y" Type Strainer for pressures over 900 lbs. This advanced design eliminates bulkiness . . . provides minimum face to face dimensions. Blow down connection is through side wall . . . piping may be welded since no break is required for removal of basket and maintenance. Check your requirements; SK Fig. 994-HP Strainers are made in any size you need. Write TODAY for more information.

SCHUTTE AND KOERTING CO.
28 State Road, Cornwells Heights, Bucks County, Pa.

For more details circle NED-1069 D4 on enclosed inquiry slip

new SPRAY NOZZLE REFERENCE MANUAL

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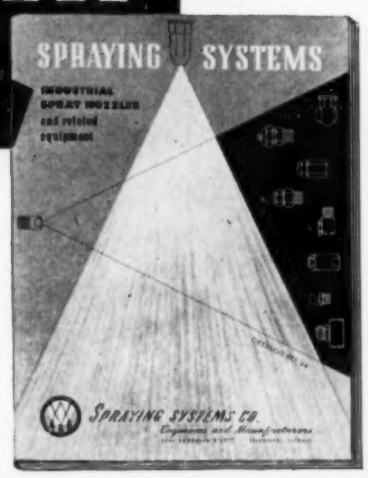

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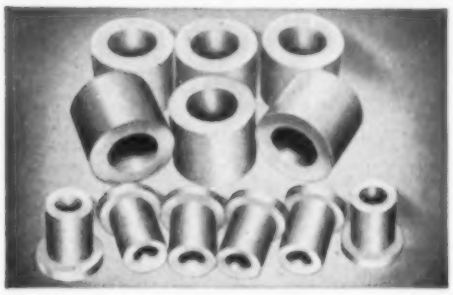
SPRAYING SYSTEMS CO.
3211 Randolph St. Bellwood, Illinois

For more details circle NED-1070 D4 on enclosed inquiry slip

New Processes & Materials

BEARING COMPOUND of Teflon, graphite, glass and oil



Teflon, glass, graphite and an inert lubricant are combined in FM-4 bearing compound for bearings and bushings used under corrosive conditions. Finished products withstand continuous contact with strong acids and organic solvents at both normal and elevated temperatures. They can be machined to close tolerances and often eliminate need for lubrication when used in low speed operations. Wearability compares favorably with that of metal bearings and bushings. Developed by **Chemical & Power Products, Inc.**, Dept. ND-1, Room 1001, 11 Broadway, New York 9, N. Y.

For more details circle NED-1071 D4 on enclosed inquiry slip

LUBRICATING OIL for hard-to-grease open applications

Heavy fluid type Kotall industrial oil has clinging quality that makes it practical for lubricating open gears, sprockets, chains, leaky gear boxes, loose or nonsealed bearings, cables, sleeve bearings and other hard-to-grease open applications. Oil forms film on metal surfaces that stays on, providing protection against scoring, burning and abrasive wear. Frequency of lubrication is cut down as well. Developed by **Tower Oil Co.**, Industrial Lubricant Div., 111 N. Canal St., Chicago 6, Ill.

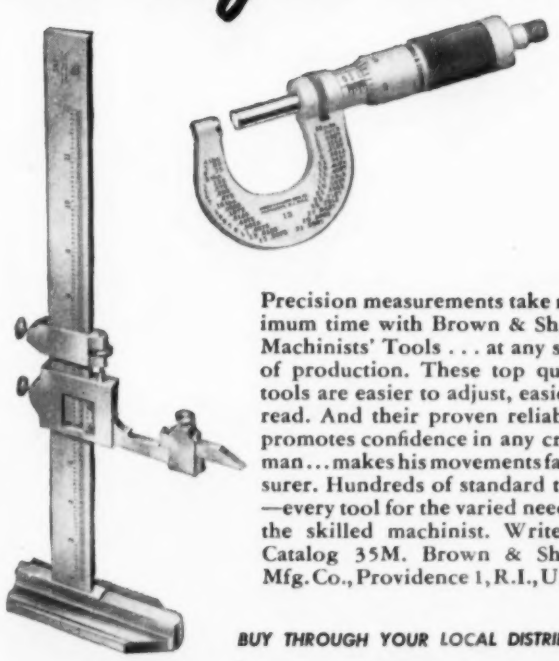
For more details circle NED-1072 D4 on enclosed inquiry slip

FLOOR ABSORBENT soaks up liquids in 10-15 seconds

Dustless and weighing 7½ lb per cu ft, Soakup floor absorbent will absorb all free-flowing liquids within 10 to 15 seconds. Viscous liquids and grease are picked up immediately by brushing the calcined aluminum silica into the grease. It can be used in traffic areas in the same manner as a sweeping compound and is sterile, inert and will not pack. Made by **Soakup Corp.**, 640 Chestnut St. S. W., Grand Rapids 2, Mich.

For more details circle NED-1073 D4 on enclosed inquiry slip

Tools that Speed "On-the-job" Accuracy



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For more details circle NED-1074 D4 on enclosed inquiry slip

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Magnetic Separators

eliminate iron contamination—from the finest magnetic particles to tramp iron—that finds its way into powdered and granulated materials. Such removal by FRANTZ FERROFILTERS insures a higher quality of product and prevention of damage to equipment—increasing your sales and saving you money.

MODEL 88V DRY FERROFILTER
Powerful eccentric-weight vibrator provides ample shake-down for coarse and fine materials. Capacity up to 1000 cu. ft. per hr.

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S. G. FRANTZ CO., Inc.
P. O. Box 1138 Trenton 6, N. J.

For more details circle NED-1075 D4 on enclosed inquiry slip

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One spray method..
One Controlled Viscosity
One Standard of Quality
..REGARDLESS OF HUMIDITY OR ROOM TEMPERATURE

MODEL 300-A
U. L. APPROVED
Designed for fixed installations, such as spray booths . . $99.50

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Please send me information on your line of hot spray heaters best suited to our work. (Type of products being finished) ..... Application is conveyorized ..... turntable ..... mobile ..... other ..... (check one). Average volume of material per gun per hour ..... Type of material ..... Please have representative call .....

Name .....
Company .....
Address .....
City ..... State .....

For more details circle NED-1076 D4 on enclosed inquiry slip

GLOBE A.C. or D.C. MOTO-MITE* MOTORS

...for MAXIMUM POWER in MINIMUM SPACE!

D.C. MOTO-MITE* Shown actual size. Length 1¾" Diameter 1 3/16" Weight 3.5 oz. Larger, smaller sizes available. A.C. MOTO-MITE* Length 2¼" Diameter 1¼" Weight 6 oz. Larger and smaller sizes available.

*Trademark

Miniature, compact, powerful, custom-built and quality controlled motors, characterized by high output and high efficiency. Designed as components for precision airborne accessory equipment, Globe Motors meet all military requirements. Speed governors, gear reducers, radio noise filters, electromagnetic clutches, brakes, etc., are available as standard assemblies. D. C. Motors can be made for various voltage applications ranging from 6 to 100V, and from 5,000 to 22,000 R.P.M. and with power output up to 1/100 H.P., and up to 1/50 H.P. dependent on frame size. A.C. Motors, 400 C.P.S. Hysteresis-Synchronous type, can be made for voltage applications up to 115V, with power output up to 1/200 H.P. for 4-pole types, and up to 1/100 H.P. for 2-pole types. Single phase capacitor-run or two phase windings available. A.C. Motors, 60 C.P.S. also available.

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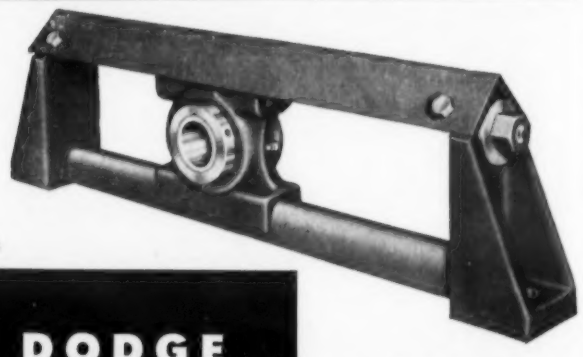

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— THEY'RE MODERN
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MODERN, rugged, *dependable!* A great range of types and sizes—for everything from light loads to heavy loads. Babbitted, Bronzoil, SC Ball Bearing, Dodge-Timken Type E Roller Bearing, Angle Frame, Protected Screw. Shaft sizes from 1/2" to 4". Travel from 4" to 48". Stocked by Dodge Distributors. Write us for details.

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DODGE of Mishawaka, Ind.

FIRST IN POWER TRANSMISSION MACHINERY

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WELDING CARBONS!

Where welding operations require high current values for the size electrode being used, Stackpole copper-coated graphite electrodes assure better welds plus maximum economy. They increase current-carrying capacity. They provide better contact between holder and electrode. They reduce the amount of tapering required, last longer and produce better welds. Send details of your application for recommended grade and copy of Stackpole Welding Catalog 1B.

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WELDING ELECTRODES • WELDING PLATES AND RODS • WELDING PASTE • BRAZING CARBONS • RESISTANCE WELDING TIPS • BRAZING BOATS AND TRAYS.

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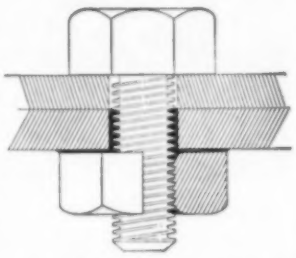
New Processes & Materials

MASTIC TYPE NUT LOCK has controlled antiseizing qualities

Nuts, studs and screws can be kept tight with Zorlock nut locking mastic. Product is applied to threads of bolt by spatula, by dipping or by squeezing direct from a tube. When nut is started, mastic is forced up and into threads. It air dries in 72 hours at room temperature or in ½ hour at 350°. Thread sealing is accomplished completely, yet antiseizing qualities are controlled. Product is non-corrosive, nonoxidizing and prevents thread rust. It resists oil, grease, acids, alkalies and other corroding media. Zorlok can also be used as complete seal on blind screws, cap screws, Allen screws, etc., and is an effective insulator between dissimilar metals. Developed by **Presstite Engineering Co.**, Dept. NED, 3798 Chouteau Ave., St. Louis 10, Mo.



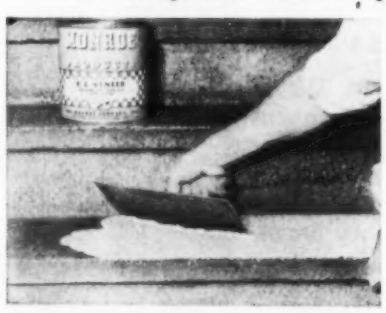
▲ For more details circle NED-1080 D4 on enclosed inquiry slip ▲

LAMINATING ADHESIVE has built-in "fire extinguisher"

Glass fiber insulation pads and blankets can be joined to sheet metal, aluminum foil, fabrics, wallboard and other materials by Insulam, a self-extinguishing fire-resistant laminating adhesive. It is a synthetic rubber-like emulsion with high thermal limits, being capable of withstanding continuous heat of 375° F without delamination. Material is light tan in color and dries to a translucent film that remains permanently flexible. Made by **Paisley Products, Inc.**, 640 W. 51st St., New York 19, N. Y.

▲ For more details circle NED-1081 D4 on enclosed inquiry slip ▲

SAFETY FLOOR TOPPING is skidproof and impervious



Nonslip, nonskid safety topping on floors and steps is provided by X-L Veneer, a heavy-bodied plastic material. Easily troweled on, it can be used over concrete, wood, steel, tile, mastic or terrazzo surfaces and is impervious to water, oils and greases. It is available in tile red, green, and light and dark gray and is suitable for use on heavily traveled areas. Made by **Monroe Co.**, Dept. M-1, 10703 Quebec Ave., Cleveland 6, O.

▲ For more details circle NED-1082 D4 on enclosed inquiry slip ▲

OVENS for INDUSTRY

Range—Room Temperature to 600° C.

Temp. Dif. .5° C.

SPECIFY Hotpack

HIGH TEMP. BATHS for Tempering Metal Cleaning • ELECTRIC FURNACES • OVENS 12 to 250 cu. ft. • TEST ROOMS • STERILIZERS • STILLS

HOTPACK forced draft ovens permit large loads and quick treatment with each article receiving the same amount of heat.

No. 1412

The units are especially effective in baking, sterilizing, heat treating and conditioning, dehydrating and aging, where uniform temperatures of heavy loads or large quantities are required.

Capacities 12 cu. ft. to 250 cu. ft.

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THE ELECTRIC Hotpack COMPANY, Inc.
5063 COTTMAN STREET, PHILADELPHIA 35, PA.

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All-Electric ADJUSTABLE SPEED

with the 3/4 to 3 hp. RELIANCE V★S DRIVE Jr. STYLE E

SAVES YOU MONEY 10 WAYS!

- Boosts output
- Reduces operator fatigue
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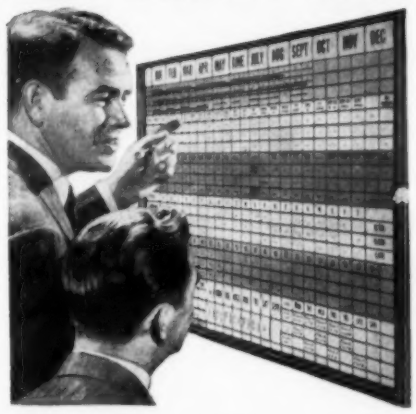

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DESIGNERS ALL TELEPHONES HAnilton 7-8290 ENGINEERS

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- NO BATTERIES. No outside power.
- LOW in FIRST and LAST COST.
- ALWAYS READY IN EMERGENCY.
- UP TO 12 stations intercom.
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ASK ABOUT NEW EXECUTIVE-TYPE CRADLE PHONE.

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Division of The Sperry Corporation
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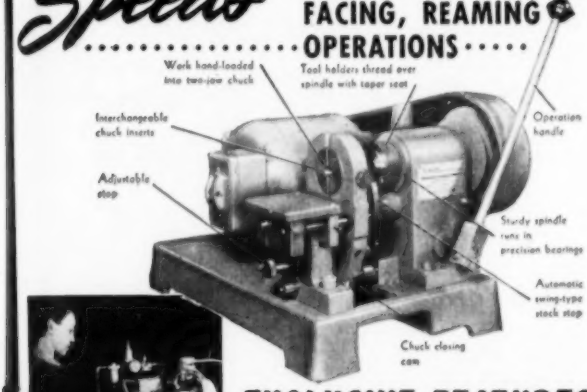

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OF PINES END-FINISHER SAVES TIME ON TUBE, PIPE, BAR JOBS

Pines Portable End-Finisher is especially designed for fast, accurate work. Small and compact, its exclusive operating features save time. Forward travel of operating lever clamps and feeds work to rotating cutters in one pass. Operator always has one hand free for stock handling. Equipped with quick, interchangeable tool holders, chuck inserts, 8-speed sheave (760 to 3920 rpm), sturdy spindle, grease-sealed precision bearings. Unit illustrated handles stock diameters up to 2". Maximum feed stroke is 1¼". Automatic air-operated units for higher production work and larger sizes up to 5" capacity are also available.

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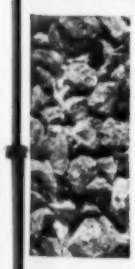

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it is HARD and TOUGH
it is NON-BRITTLE
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crush it into PROPER SHAPES
screen it into PROPER SIZES
. . . and properly PROPORTION
the shapes and sizes into a *100 pound unit*

and you have
CORTLAND EMERY AGGREGATE
for making EMERI-CRETE FLOORING REG. U. S. PAT. OFF.
the superior, time-tested
3/4" HEAVY DUTY FLOOR

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New Processes & Materials

EXTRUDED STEEL TUBING
has integral internal finning

Illustration shows section through a portion of heat exchanger stainless steel tubing which is fabricated by the extrusion process and has integral internal fins to increase heat transfer area. It is typical of a range of similar extruded tubular products with either internal or external finning produced from a variety of steels in a limited size range. Made by **Babcock & Wilcox Co.,** Tubular Products Div., Beaver Falls, Pa.

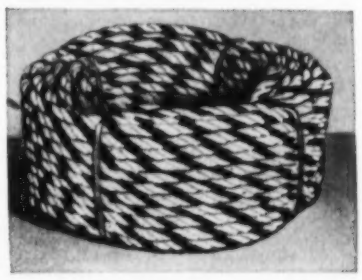
▲ For more details circle NED-1090 D4 on enclosed inquiry slip ▲

OPEN-MESH ABRASIVE MATERIAL
minimum loading gives long life

Minimum loading of sanding residue is provided by open-mesh construction of Sand Screen abrasive material which can be used wet or dry, on both sides and for both machine and hand sanding operations. Material comes in full sheets, cut sheets and disks in silicon carbide grit sizes of 180 and finer. It can also be furnished in standard 50-yd rolls up to 18 in. wide Sand Screen is used flat or folded to any desired size for hand sanding. It can also be creased and readily torn into any desired width from a 9 x 11-in. sheet. Made by **Carborundum Co.,** Coated Products Div., Dept. NED, P. O. Box 337, Niagara Falls, N. Y.

▲ For more details circle NED-1091 D4 on enclosed inquiry slip ▲

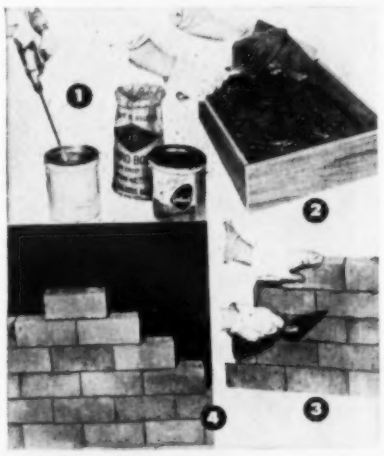
PLASTIC BARRIER ROPE
safety colors assure visibility



Plastic barrier rope for enclosing danger areas is made up of three strands of polyethylene plastic, two yellow in color and one black. It provides high visibility and can be used without deterioration in presence of acids and other corrosive materials and atmospheres. Poly-rope is 5/16-in. diameter. It has good dielectric properties and will not stretch or sag. It does not support combustion and is unaffected by oil. It is readily tied in position, is nonabsorbent and its light weight and flexibility make it easy to handle. Made by **Industrial Products Co.,** 2807 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle NED-1092 D4 on enclosed inquiry slip ▲

SYNTHETIC BONDING RESIN
withstands acids, alkalis, solvents



Good workability and long pot life are characteristics of Corobond, an improved synthetic resinous bonding cement for brick and tile. It resists the corrosive effects of acids, alkalis and solvents and hardens with minimum shrinkage to an extremely dense material with high mechanical and tensile strength. A mixture of acid hardeners, acting on a delayed reaction principle, slows the initial hardening and allows ample working time when large batches are mixed. Made by **Ceilcote Co.,** 4838 Ridge Rd., Cleveland 9, O.

▲ For more details circle NED-1093 D4 on enclosed inquiry slip ▲

WESPO

T-BOLTS
BOLSTER & T-SLOT TYPES TO J.I.C. PRESS ROOM STANDARDS

Forged precision machined heat treated. Tensile strength 150,000 lbs.

SIZES
BOLSTER BOLTS
—dia. to 1½" Heads sq. to 3" hex. to 2⅝" T-Slot bolts, ½", ⅝", ¾" dia. lengths to 12". 1" dia. 4" to 22" long.

NUTS—
hardened—threaded to close fit. WASHERS—hardened — ground both sides.

Write for bulletin-prices

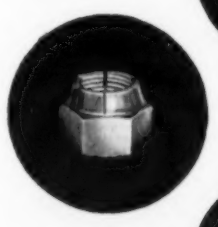
WEST POINT MFG. CO.
26945 W. 7 Mile Road Detroit 19, Mich.

▲ For more details circle NED-1094 D4 on enclosed inquiry slip ▲

FINISHED & HEAVY HEXAGON NUTS

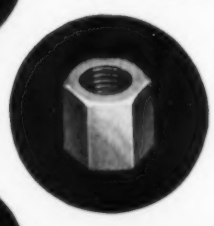
SPECIAL

HEXAGON NUTS TO YOUR SPECIFICATIONS

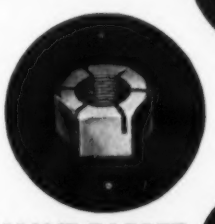


"HUGLOCK"—SELF-LOCKING ONE-PIECE ALL-METAL

"SEEZ-PRUF"

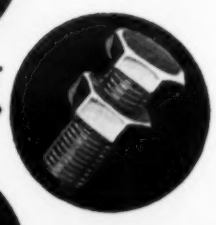


NON-SEEZING STEEL NUTS FOR HIGH TEMPERATURES

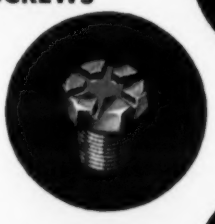


"MARSDEN"—THE FREE RUNNING LOCKNUT

VALVE-TAPPET ADJUSTING SCREWS



FOR INTERNAL COMBUSTION ENGINES



"PLACE" BOLTS—ONE-PIECE SELF-LOCKING WITH DIAPHRAGM HEAD

OIL & WATER SEALERS

OIL AND WATER SEALING COMPOUNDS

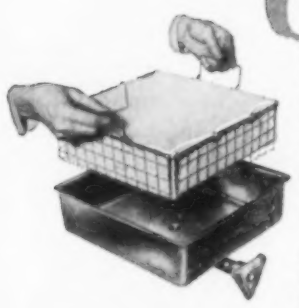
Here is the Table of Contents that you will find on the Preface Page of our new 160 page catalog that is about to go to press . . . Besides having complete information and specifications, it contains much engineering data . . . If you have immediate need for such information we have a limited quantity of the current edition that can be supplied upon request without delay.

NATIONAL MACHINE PRODUCTS COMPANY *Fasteners*
44231 Utica Rd., UTICA, Michigan

▲ For more details circle NED-1095 D4 on enclosed inquiry slip ▲

Now FOR SMALL FLOW FILTRATION

THE Delpark Junior



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Designed for coolant filtration on grinders, hobbers, shavers, cutters, hones and lappers with small coolant flows. Filtration capacity on cutting oils ¼ to 1 g.p.m., soluble oils ½ to 1½ g.p.m.

Permits closer tolerance and finish requirements, greater machine efficiency and production, fewer rejects. Assures longer wheel and tool life, lowers coolant temperature. Requires no floor space. Disposable filter tray replaced in seconds. Allows cleaner working conditions.

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

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10700 PURITAN AVENUE, DETROIT 38, MICHIGAN

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New Literature & Catalogs

Electric Wiring Channel

Stahlin Bros. Fibre Works—Panel-Chanel, an electrical grade phenolic sheet that is preformed into perforated channel walls to permit entry and exit of cable and wires into panel housings, is subject of 12-page illustrated and plastic-bound catalog. One style of channel can be made into 1, 2 or 4-in. or wider channels. Joints and end plates require no special fittings.

▲ For more details circle NED-1100 D4 on enclosed inquiry slip ▲

Rubber-Lined Pipe Joint

Gates Engineering Co.—12-page illustrated catalog and engineering manual covers a system for joining and replacing 1½ to 10-in. rubber-lined pipe in the field. System can be interchanged with any other standard system and speeds installation, repair and renovation procedures. Manual covers design, methods of installation, parts and tools required and indicates suitable fields of application in process and other industries.

▲ For more details circle NED-1101 D4 on enclosed inquiry slip ▲

Cost-Cutting Handling System

Factory Service Co.—Turner system of materials handling whereby semifinished products are given mobility by use of various Turner units is described and illustrated in booklet's 28 pages. Ideas for savings in labor, space and equipment are presented, along with specific applications.

▲ For more details circle NED-1102 D4 on enclosed inquiry slip ▲

Industrial Water Softeners

Illinois Water Treatment Co.—Three basic types of Illco-Way industrial water softeners, Greensand, Zeolite and C-211 Resin, are described and illustrated in 8-page bulletin S-105. Capacities range to 4170 kilograins. Specifications for various models of each type are given. Various controls are described.

▲ For more details circle NED-1103 D4 on enclosed inquiry slip ▲

Manlift Elevator

Humphrey Elevator Co.—Line of manlift elevators described in illustrated 8-page bulletin HB-54 is for use in multifloor buildings where there is vertical processing of products and/or where frequent inspection of machinery on various levels is required. Application photos are included, as are data on four standard models and accessories for them.

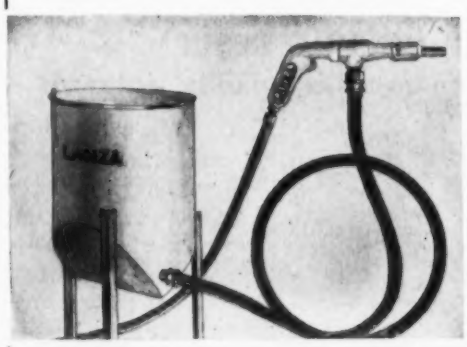
▲ For more details circle NED-1104 D4 on enclosed inquiry slip ▲

Rubber Parts & Tubing

Miller Products Co.—20-page revised catalog M77 list stock molds available for rubber grommets, bumpers, suction cups, bushings, O-rings, gaskets, etc. Eighteen-page catalog M100, also revised, has listings of stocked tubing made from pure gum, Neoprene, buna, latex rubber and plastic.

▲ For more details circle NED-1105 D4 on enclosed inquiry slip ▲

THE Lanza SANDBLASTING GUN



A modern sandblasting unit which does more work at lower cost. Sandblasting, soft-grid blasting or wet sand blasting are some of the features attainable with this sandblasting unit. Operating at 75 to 100 Lbs. pressure PSI., this sandblasting unit is proving its efficiency in many of the best equipped shops and industries throughout the country.

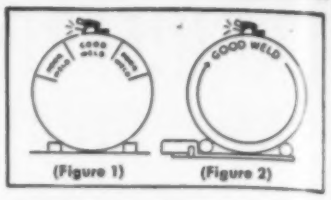
For removing rust, weld scale and similar duties, for soft-grid blasting armatures, engine and piston rings etc., for masonry, wood surface or plastics works, four convenient sizes are available at nominal cost requiring only 12 to 60 Cb. Ft. of air per minute having a cleaning capacity up to 100 Sq. Ft. of surface per hour.

For an easy manipulated and economical sandblasting unit, look for the Lanza Sandblasting equipment, write for bulletin No. 474.

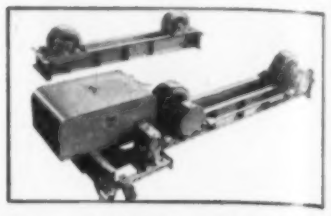
LANZA SANDBLASTING GUN MFG. CO.
600—16th St., Oakland 12, California

▲ For more details circle NED-1106 D4 on enclosed inquiry slip ▲

How Worthington Turning Rolls insure BETTER WELDS



(Figure 1) (Figure 2)



Designed for use in welding cylindrical vessels of any size, Worthington Turning Rolls will insure the best possible weld while lowering costs and increasing footage up to 50%.

The above sketches show how. Unless work is turned continuously, good downhand welding is obtainable only in a small area (Fig. 1). With a Worthington Turning Roll, downhand welding is assured for the complete circumferential seam (either by manual or automatic welding) (Fig. 2).

Write for Bulletin 210C, Worthington Corporation, Positioning Equipment Division, Plainfield, New Jersey.

WORTHINGTON
Welding Positioners—Turning Rolls

▲ For more details circle NED-1107 D4 on enclosed inquiry slip ▲

Cochrane MULTIPORT RELIEF VALVES

FOR STEAM • AIR • GAS SERVICE

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- SIMPLE POSITIVE OPERATION
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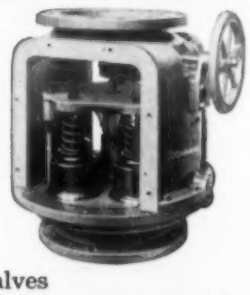
- NO JAMMING
- NO FREEZING



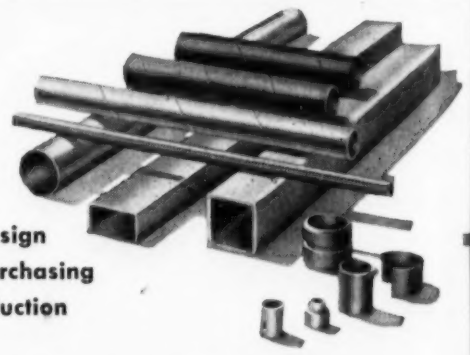
Cochrane Multiport Valves provide a system over-pressure regulation that can be relied on. As pressure rises above set pressure, multiple valves ease open and *meter off* the over-pressure. They then gently close to the pre-set pressure, automatically.

Adjustment from zero to required pressure is easily accomplished by hand wheel or chain wheel. Applications are as Atmospheric Relief Valves, Differential Pressure Spill-over Valves for closed systems, Check Valves or as Vacuum Breakers.

Write for Publication 5200, giving details, applications and sizes. C100.3

COCHRANE CORP. 3143 N. 17th STREET PHILADELPHIA 32, PA.

▲ For more details circle NED-1108 D4 on enclosed inquiry slip ▲



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Looking for low-cost tubing to reduce unit costs and improve product performance? Consider the use of C-D-F Spiral Tubing, a high strength plastic made from paper or fibre that is spirally wound and cured at high temperatures. In many cases it can replace rolled or molded laminated plastics . . . at a good cost saving. Small sizes, thin walls are not a problem. For many applications, dimensional stability and moisture resistance is excellent. Coil forms, insulating tubes, paint roller tubes, shipping containers, bushings are just a few applications. Write today for 8-page Technical Folder ST-53, giving properties, sizes, tolerances on impregnated and unimpregnated round, square and rectangular C-D-F Spiral Tubing. Well illustrated. Call your C-D-F sales engineer (offices in principal cities) — he's a good man to know!

CDF Continental-Diamond Fibre
CONTINENTAL-DIAMOND FIBRE COMPANY, NEWARK 30, DELAWARE

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- *Flaring*
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Model 3CP-VD
¼" to 3" Capacity

Consult Our Tube Specialists Division for Production Tube Processing

LEONARD PRECISION PRODUCTS CO.
P. O. BOX 176 GARDEN GROVE, CALIF.

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Why does Reliance Mfg. Co. use NATIONAL DRYERS in their many plants ?

View of washroom in one of the many plants equipped with National Dryers showing dryer in use.

To reduce maintenance costs. National Hand Dryers eliminate cost of towels, storing of towels, filling cabinets, disposing of towels, cleaning washrooms, plumbing service.
To secure improved sanitation. Impartial tests conducted by the U. S. Health Service prove conclusively that National Hand Drying is far more sanitary than hand drying by any other method. Ask for complete Public Health Report.
Do you really know how much your washroom service is costing you? Save 85c out of every $1 you are now spending for washroom maintenance. Write today for cost comparison of towels vs. Natinal Hand Dryers, Public Health Service Report and descriptive literature.

National Dryer Sales Corporation, 616 West Adams Street, Chicago 6, Ill.
Without obligation send cost comparison and Public Health report NE4(4)
Name Address
City Zone State

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Twice as loud as the best electric horn
Responds instantly to electric current
Sounds short, sharp code blasts—no lag—no fading
No tanks or valves required
Used indoors or outdoors—Weatherproof
High capacity motor—durable diaphram type compressor
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WRITE TODAY
for full details — ask for Bulletin 117

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FORMERLY: FEDERAL ENTERPRISES, INC.
8711 S. State Street • Chicago 19, Illinois

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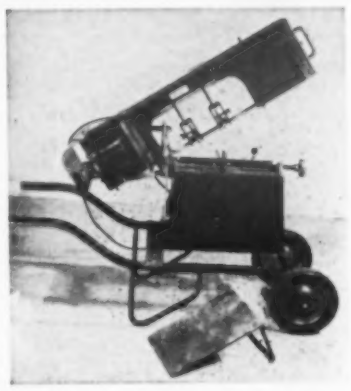
METAL CUTTING BAND SAW
straight or angle cuts to 45 degrees



Portable Mighty Midget metal cutting band saw has a continuous cutting action, utilizing 6 ft 9 in. of cutting edge on the band saw blade. Machine makes straight cuts or angle cuts to 45 degrees. Head of the model 53-B saw moves sideways about ¾-in., making unnecessary exact positioning of stock for cutting. Throat capacity is 6 in. and guide clearance is 9 in. Wheel and guide bearings are sealed ball bearing type. Steel hand truck has ball bearing wheels with 2.00 x 10-in. tires. Entire unit weighs 205 lb and uses a ¼-hp motor. Available from **McCarty Machinery Sales**, Box M-N, Bayfield, Wis.

▲ For more details circle **NED-1113 D4** on enclosed inquiry slip ▲

SMALL PARTS WASHER
design reduces fire hazards

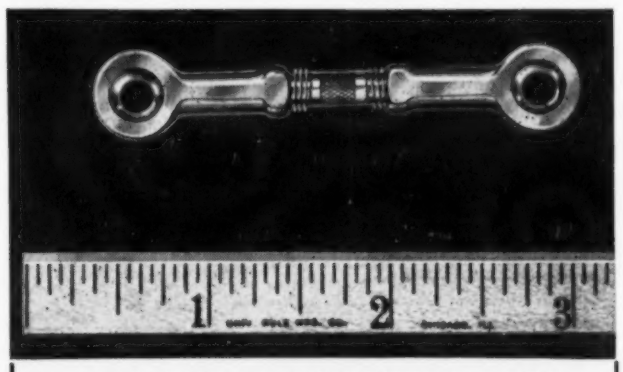
Air-powered parts washer for solvent cleaning of small parts and subassemblies has several features which reduce fire hazards. Leakproof container contains the parts basket which is moved up and down in the solvent bath by a reciprocating air motor. Basket movement can be regulated between 75 and 125 cycles per minute by setting air control valve. Container lid has a fusible link which has a low melting point and automatically closes cover to smother any fire that might occur. Unit operates on air pressures between 25 and 100 psi and is sufficiently compact and portable to permit use by production machine operators at their machines. Made by **Protectoseal Co.**, 1966 S. Western Ave., Chicago 8, Ill.

▲ For more details circle **NED-1114 D4** on enclosed inquiry slip ▲

Wire Cordage & Cord Sets

Essex Wire Corp., Cords Limited Div.—Extensive wire cordage types available are combined with cord set components in this 30-page catalog. Engineering section contains 118 separate dimensional drawings of plastic and molded rubber cord connectors, strain reliefs, etc. Tables show electrical ratings.

▲ For more details circle **NED-1115 D4** on enclosed inquiry slip ▲



BALL END CONNECTING RODS
For Industrial Applications

MANY industrial applications are found for these precision built connecting rods. Used as machinery linkage or on both single and twin carburetors of any butane or gasoline engine.

Avalon Connecting Rods come equipped with spring lock adjustment or lock nut. Rod ends are furnished in sets with right and left hand threads. Perfect alignment is assured by ball and socket bolt holes. Greatly increases motor efficiency, specially where dual carburetors are used by providing close adjustment.

Sizes: Bolt holes 3/16" thru 5/16".
Lengths from 2⅞" bolt center up.

Priced from $1.50 a Set Up — Quantity Discounts

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2535 E. Imperial Highway, Los Angeles 59, California

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STOP HYDROSTATIC PRESSURE LEAKS

THROUGH CRACKS or HOLES IN UNDERGROUND WALLS with

SEEP-SEAL

STOPS THE LEAK IN 2 MINUTES

Water seepage, even hydrostatic pressure leaks, commonly found in underground concrete structures, are no longer a difficult problem to overcome. A simple, quick and most effective remedy is found in Seep-Seal. This amazing new formula, mixed with Portland cement, and inserted in any crack or actual hole in concrete, will set within 2 MINUTES to shut off ALL leakage. Ideal for manholes, elevator pits, reservoirs, subways, mine-shafts and similar structures. Also widely used in plaster-consistency for damp-proofing floors and walls.

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In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 5

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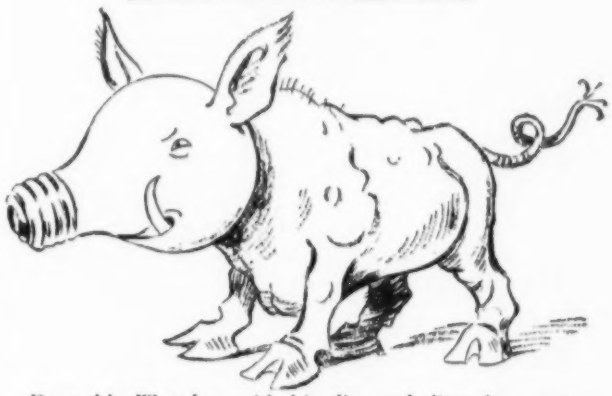
WATCH OUT for the WATT-HOG



Does this *Watt-hog* with his dim and dirty face root you out of good light and decent maintenance economy? Not if you follow the suggestions in the *Champion Maintenance Manual** and make a practice of buying the right lamps — efficient, long-lasting *Champion Lamps.*

**Your name and company address on a postcard will bring you a free copy by return mail*

CHAMPION LAMP WORKS
586 Broad Street • Lynn, Massachusetts

CHAMPION lamps

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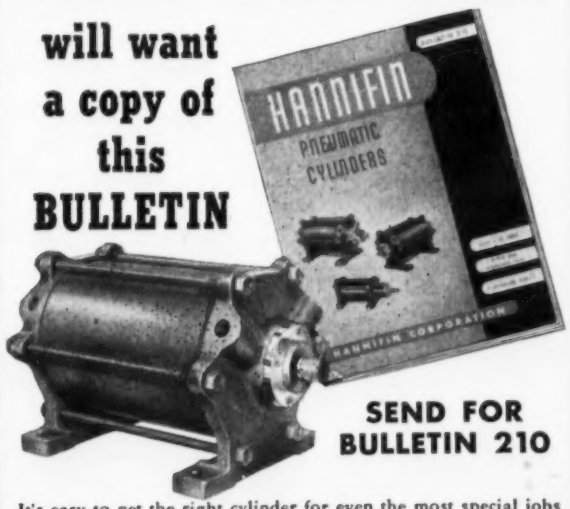
EVERY ENGINEER will want a copy of this BULLETIN



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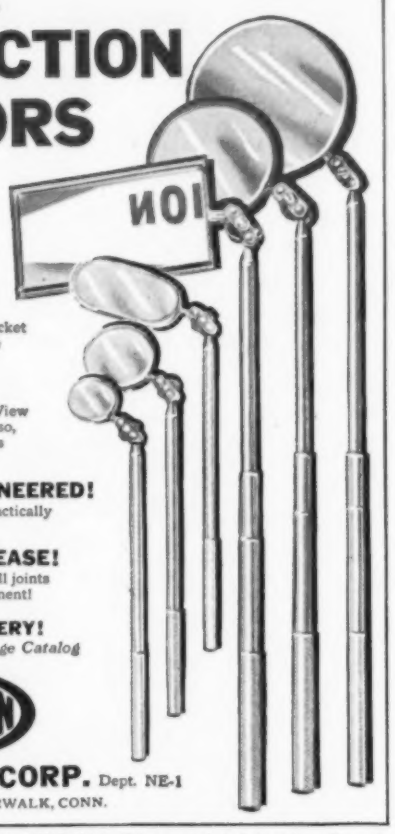

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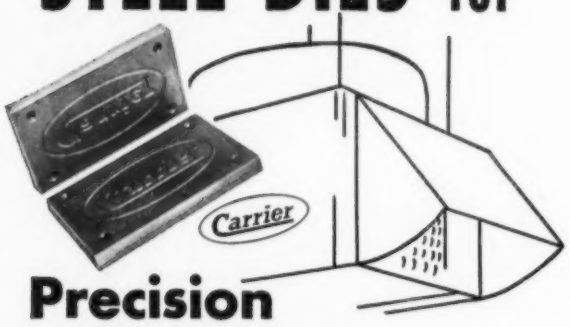

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☐ Firemen's Suits
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☐ Leggings
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"More Safety per Dollar"

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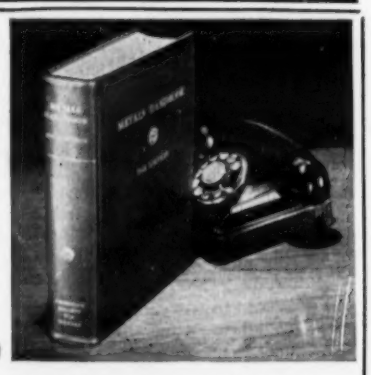

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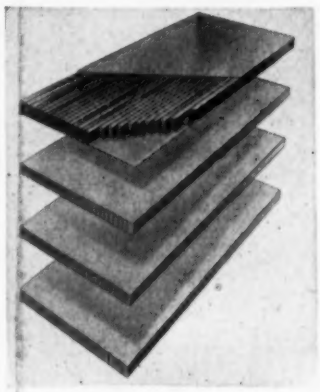

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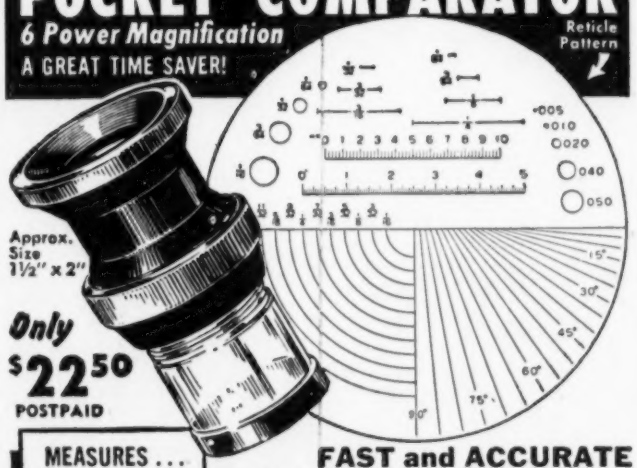

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